Fostering innovation through stakeholders' engagement at the healthcare industry: tapping the right key.

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Abstract

In this paper we investigate to which point each of the healthcare industry's stakeholders are influencing the final innovation outputs. We propose and test a model that puts together stakeholders' engagement, innovation objectives and innovation outputs. We analyze data from 400+ healthcare Spanish companies using Partial Least Squared modelling technique. Results show that stakeholders' engagement is crucial to orientate innovation objectives that are directly and positively related to innovation outputs. Also, results push to a higher implication of society in the co-creation and participation in innovation activities in the healthcare industry highlighting its importance as, both, triggers and the most benefited recipients. This paper uncovers the relationship among healthcare stakeholders and innovation outputs and also answers another research question—which stakeholders have a stronger relationship with innovation outputs. Implications suggest that healthcare industry managers and policy makers should build on the relationship with clients/customers/patients/final users as innovation-related information inputs as an effective way to improve their innovation outputs.

Keywords: Healthcare industry, stakeholders' engagement, co-creation, PLS, innovation outputs

Introduction

The new competitive environment urges companies to move from what is called the "company-centric" value creation to the "co-creation of value" model. Those concepts imply motivating other actors, besides companies, to be part of the creative process. Customer engagement is intended to

generate key knowledge, capabilities and commitment to health management in order to build successful services while reducing costs and improving health results (Hardyman et al., 2015). This is aligned with the shift in the creating value process that has been widely studied in the academic literature (Baldwin and Von Hippel, 2011) and also with the stakeholders' theory (Freeman 1984, Friedman and Miles, 2006), that poses that companies should include values in the process decision making and to "shared sense of the value they create" by bringing companies' stakeholders together.

This end-user co-creation has been proved to add value to the products and services based on their experience and to be an interesting source of information for innovating (Mahr et al., 2014, Ribes-Giner et al., 2017, Goermar et al., 2020). Co-creation has also been proved to influence customer satisfaction (Vega-Vazquez, et al., 2013), trust (Iglesias el at., 2018) and loyalty (Auh et al., 2007) and to help firms to gain competitive advantage (Gouillart, 2014).

That is why, and also considering that the health industry is asking, on one hand, for a change towards a more centered user focus and, on the other hand, for a higher implication of society in the co-creation and participation in innovation activities (Fumagalli et al., 2015), we describe a scenario for analyzing to which extend, the stakeholders' engagement can affect innovation outputs and how. In this particular context of stakeholders' co-creation to innovate, several authors ask for the need to develop quantitative studies and go one step further the theoretical analysis (Kazadi et al., 2016, Pera et al., 2016, Reypens et al., 2016). To fulfil this claim, we analyze data from 406 Spanish healthcare companies available at the 2010 Community Innovation Survey[1] (CIS) using a Partial Least Square Structural Equation Modelling. We offer one of the first empirical models of the relations that underlie among stakeholders engagement, companies' innovation objectives statement an innovation outputs.

Conceptual framework

[1] https://ec.europa.eu/eurostat/web/microdata/community-innovation-survey

A stakeholder is "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984). Recent studies have focused on disentangling stakeholders' links to innovation. But the empirical verification of the stakeholders' interactions, relations and its outcomes, is still an uncovered research gap, especially in services contexts (Pinho et al., 2014), and more specifically at the healthcare industry (Field et al., 2018).

Considering the above, an open question arises (RQ), *Can innovation outputs at the healthcare industry be enhanced by strengthening the relations with its stakeholders?*

So, following the literature and in order to get a full understanding of the needed stakeholders' engagement that can foster innovation and cocreation, this question leads to other research enquiries, the "who, how and what":

RQ^a-Which are the stakeholders that have a stronger relation with innovation outputs at the healthcare industry?

RQ^b-How does the stakeholders' engagement affect innovation outputs at the healthcare industry?

RQ^c-What type of innovation outputs can be improved by enhancing stakeholders' engagement at the healthcare industry?

Constructs' definition and hypotheses statement

We followed Vos and Achterkamp (2006) so that "stakeholders of an innovation project are those parties that have an interest in the outcomes, of whatever kind, of that project". We select clients, suppliers, competitors, government and regulators and alliance partners as universities and research labs.

Different studies referring to stakeholders engagement and the innovation process can be found in the academic literature. For instance, Kazadi et al. (2016) studied how the different stakeholders'

capabilities (networking, competence mapping, relational, knowledge management) impact the cocreation during the innovation project. Reypens et al. (2016) found that value creation is leveraged by co-creating in multi-stakeholders innovation networks. Van Oerle et al. (2016) included innovation intention among the selected variables affecting the different community components of co-creation and knowledge creation in the health industry, finding that the participation of different actors (stakeholders) in key for structuring the innovation intention, as well as the use of innovation tools. Segarra-Oña et al. (2017) proved the firm's community links to be the key factors in developing new innovations but, so far, there is no study that links stakeholders' engagement and specific innovation outcomes.

That's why we state our first hypothesis:

H1 Stakeholders' engagement directly impact on the innovation outcomes at the healthcare industry.

Studies of innovation activities usually refer to product and process innovation but we will provide a wider focus and, considering in first place Omachonu and Einspruch (2010) definition of healthcare innovation and, in second place, the formal Oslo manual (2005) definition that sets innovation typology as process, product, marketing and organizational, the first hypothesis will split in 4, considering each of the different types, H1a (process), H1b (product), H1c (marketing), H1d (organizational).

The question of lining up the innovation strategy with a wider firm strategy is currently out of discussion. A correct strategic orientation is a good predictor of innovation and should be considered during the strategy formulation and following steps (O'Regan and Ghobadian, 2005).

Stakeholders are the link to the company to its environment and that´s why we believe that stakeholders engagement contribute to a better innovation orientation of the firm´s objective and, therefore, we set our second hypothesis:

H2 Stakeholder engagement provide companies a better innovation orientation

Siguaw et al. (2006a) defined the concept innovation orientation by integrating the different drivers, actions and outcomes that conform it. We totally agree with Siguaw et al. (2006) on that firms with a higher innovation orientation will be better prepared to produce innovations and that although some inconveniences may appear, envisioning innovation from a holistic view, leads to a better innovation performance (Simpson et al., 2006).

That´s why we set our third hypothesis,

H3. A higher innovation orientation of healthcare firms impact on final innovation outputs.

That will also split in four more specific statements considering the 4 innovation types, H3a (process), H3b (product), H3c (marketing), H3d (organizational):

Sample and method

In this study we used data from the Community Innovation Survey (CIS) from 2010. This harmonized survey is carried out every 2 years by some EU member states. The CIS monitors the innovation activity in companies. We retrieved data for all the companies from Spain in the Healthcare Industry (NACE codes Q86 - Human health activities and Q87 - Residential care activities) with available information on the variables of interest. We ended with a sample of 406 companies.

We modeled three high-order dimensions. The first dimension, stakeholders' engagement in relation to the innovation activities, include 12 variables. Half of those variables measure if firms obtain information for their innovation activities from each of the selected stakeholders; clients, customers, competitors, other private organizations (consultants or private R&D) and institutional organizations (government or universities). The rest of the variables indicate if any type of cooperation has been established among the company and its stakeholders.

The second dimension is called Innovation Outputs. The four main types, process, product/service, organizational and marketing, have been included in the study. Regarding process and organizational innovation, 3 items measure each of the outputs. Goods and services are analyzed separately. And marketing innovation outputs is composed by 4 different measures.

Finally, the third dimension is called Innovation Orientation. This dimension represents the importance of the different types of innovation for the innovation activities of the companies. It is therefore comprised of four types of objectives, one per type of innovation.

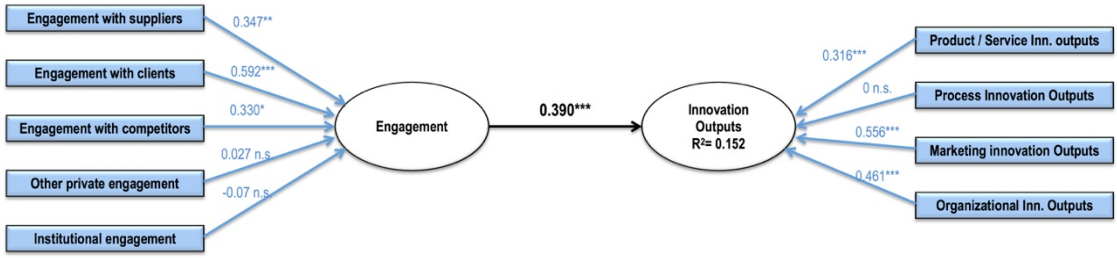
We estimated the model using Partial Least Squared Structural Equation Modelling (PLS-SEM) with SmartPLS 3 (Ringle et al. 2015). According to Henseler et al. (2009), PLS-SEM is recommended in this study for several reasons: complex model, assumptions of multivariate normality cannot be made and it can handle reflective and formative measurement models.

As the model includes second-order hierarchical latent variables. Among the different approaches suggested in the literature we decided to apply the repeated indicator approach operationalized with Mode B and path weighting scheme as suggested by Becker et al. (2012), because: 1) it combines reflective-formative and formative-formative hierarchical latent variables, 2) simulations results indicated that it does not lead to biased results and 3) it yields to the best parameters estimates.

Measurement Model

We used first-order construct items (blue rectangles in Figure 1) as indicators in the second-order construct (circles in Figure 1). Then, we linked the engagement dimension to each first-order construct of innovation output and innovation orientation, and the innovation orientation dimension to each first-order construct of innovation output: that is, we assessed the impact of each dimension on another dimension through the first-order constructs.

Figure 1. Direct structural model



We also linked the dimensions following the hypotheses and ran PLS to obtain the path coefficients. Table 1 shows the measurement model results for the first- and second-order constructs.

Table 1. Measurement model results

DIMENSION (second-order) / *Latent variable (first-order)* / Indicator	**FACTOR LOADINGS**	**WEIGHTS**	**AVE**	**CR**	**VIF**
ENGAGEMENT (aggregate multidimensional construct)					
Engagement with suppliers		**0.407*** **			**1.229**
• Co2: cooperation with suppliers		0.434***			1.028
• SSUP: Importance of information provided by suppliers on innovation projects		0.833***			1.028
Engagement with clients		**0.44*** **			**1.515**
• Co3: cooperation with clients or customers		0.244**			1.023
• SCLI: Importance of information provided by suppliers on innovation projects		0.934***			1.023
Engagement with competitors		**0.353*** **			**1.674**
• Co4: cooperation with competitors or other enterprises in the sector		0.117			1.03
• SCOM: Importance of information provided by competitors or other enterprises in the sector		0.973***			1.03
Other external private engagement		**0.136 n.s.**			**1.564**
• Co5: cooperation with Consultants, commercial labs, or private R&D institutes		0.242			1.06
• SINS: Importance of information provided by Consultants, commercial labs, or private R&D institutes		0.914***			1.06
Institutional engagement		**-0.036 n.s.**			**1.5**
• Co6: cooperation with Universities or other higher education institutions		0.049			1.777
• SUNI: Importance of information provided by Universities or other higher education institutions		0.588 **			2,73
• Co7: cooperation with Government or public research institutes		0.378*			1.777
• SGMT: Importance of information provided by Government or public research institutes on innovation projects		0.251			2.728
INNOVATION ORIENTATION (aggregate multidimensional construct)					
Orientation to Product innovation		**0.047 n.s.**	0.595	0.854	**1.762**
• ORANGE: Increase range of goods or services	0.778				
• OREPL: Replace outdated products or processes	0.67				
• ONMOMS: Enter new markets or increase market share	0.828				
• OQUA: Improve quality of goods or services	0.801				
Orientation to Process Innovation		**-0.01 n.s.**	0.644	0.878	**1.6**
• OFLEX: Improve flexibility for producing goods or services	0.734				
• OCAP: Increase capacity for producing goods or services	0.816				
• OLBR: Reduce labor costs per unit output	0.845				
• ORME: Reduce material and energy costs per unit output	0.81				
Orientation to Organizational Innovation		**0.554*** **	0.822	0.959	**1.334**
• ORORED: Reduce time to respond to customer or supplier needs	0.935				
• OROABL: Improve ability to develop new products or processes	0.895				
• OROQUA: Improve quality of your goods or services	0.935				
• ORORCO: Reduce costs per unit output	0.874				
• OROCIN: Improve communication or information sharing within your enterprise or with other enterprises or institutions	0.892				
Orientation to Marketing Innovation		**0,615*** **	0.861	0.949	**1.265**
• OMKTS: Increase or maintain market share	0.945				
• OMKTCG: Introduce products to new customer groups	0.948				
• OMKTGM: Introduce products to new geographic markets	0.889				
INNOVATION OUTPUTS (aggregate multidimensional construct)					
Process Innovation outputs		**0 n.s.**			**1.144**
• INPSPD: New or significantly improved methods of manufacturing or producing goods or services		0.811***			1.043
• INPSLG: New or significantly improved logistics, delivery or distribution methods for your inputs, goods or services		0.382**			1.051

• INPSSU: New or significantly improved supporting activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing	0.374**	1.046
Product/service innovation outputs	**0.321*** **	**1.123**
• INPDGD: New or significantly improved goods	0.405*	1.163
• INPDSV: New or significantly improved services	0.775***	1.163
Organizational innovation outputs	**0.465*** **	**2.377**
• ORGBUP: New business practices for organising procedures	0.449***	1.915
• ORGWKP: New methods of organising work responsibilities and decision making	0.359***	2.065
• ORGEXR: New methods of organising external relations with other firms or public institutions	0.407****	1.303
Marketing innovation outputs	**0.562*** **	**2.865**
• MKTDGP: Significant changes to the aesthetic design or packaging of a good or service	0.303***	1.278
• MKTPDP: New media or techniques for product promotion	0.604***	1.505
• MKTPDL: New methods for product placement or sales channels	0.118	1.649
• MKTPRI: New methods of pricing goods or services	0.289***	1.298

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$ based on bootstrapping with 5000 samples. Note: Values in bold correspond to the second-order constructs, these weights are obtained form the relations between higher-order constructs and their lower order constructs.

As we have reflective and formative first-order latent variables, we have to assess the validity of the measurement model differently. For the reflective measures, we assessed the reliability of the indicators, internal consistency, and convergent and discriminant validity. All the measures met the suggested criteria, factor loadings for each item being higher than 0.7 for the reliability of the indicators (Churchill, 1979), composite reliability (CR) higher than 0.7 for internal consistency (Nunnally & Bernstein, 1994), and average variance extracted (AVE) higher than 0.5 for convergent validity (Fornell & Larcker, 1981). Finally, in order to ensure discriminant validity, the heterotrait-monotrait (HTMT) ratio of correlations (Henseler et al., 2015) was below the suggested threshold of 0.85.

On the other hand, the formative measures of first- and second-order constructs showed no multicollinearity problem, as the variance inflation factor (VIF) was lower than 3.3 (Diamantopoulos & Siguaw, 2006). We report estimated weights and their significance in Table 1. Although some of the item weights were revealed as not significant, we decided not to drop them from the model following Roberts and Thatcher (2009), as it would imply dropping a part of the composite latent construct and some interesting insights.

Weights provide information about how each item in the formative measures contributes to the first-order construct and how each first-order construct contributes to each dimension (second stage).

Table 1 shows that engagement with clients (0.440), suppliers (0.407) and competitors (0.353) is the most important element in the composition of the engagement dimension, while in the other two dimensions, the elements related to organizational (0.554 and 0.465) and marketing innovations (0.615 and 0.562) ranked better according to their contribution (Henseler et al., 2009) to the innovation orientation and innovation outputs, respectively.

Structural Model

After assessing the measurement model, we evaluated the effects between our dimensions and between dimensions and the first-order constructs as we established the hypothesized relationships between them. Figures 1 and 2 and Table 3 show the results of the structural model assessment.

Figure 2. Mediated structural model.

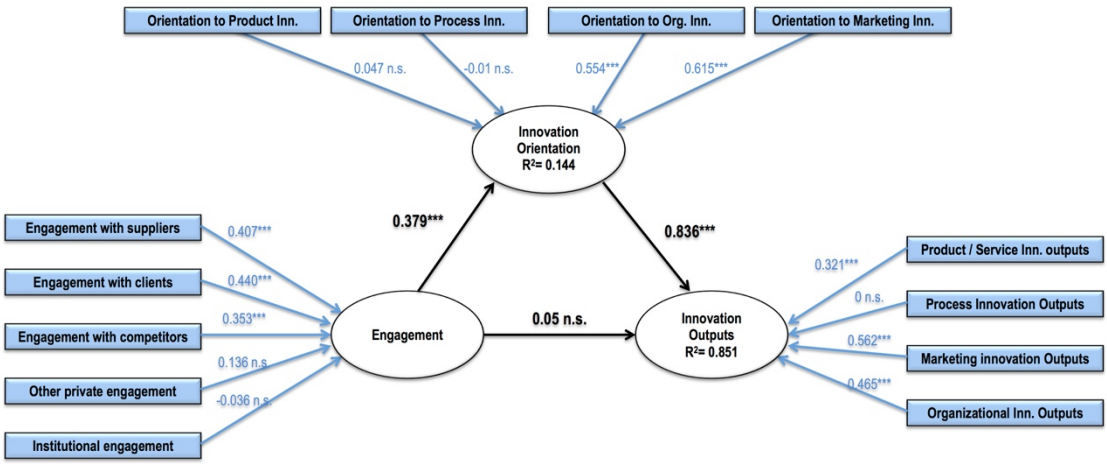


Table 2. Structural model results

Effects on endogenous variables	Total/Direct Effect	BCa interval	Explained variance
Innovation Outputs (R^2=0.851)			
• H1: Engagement	0.368*** / 0.05 n.s.	[0.337, 0.529] sig. / [-0.003, 0,114] n.s.	13.5%
• H2: Innovation Orientation	0.836***	[0.808, 0.886] sig.	71.6%

Innovation Orientation (R^2=0.144)			
• H3: Engagement	0.379***	[0.339, 0.517] sig.	14.36%
Process innovation outputs			
• H1a: Engagement	0.271*** / 0.192***	[0.179, 0.378] sig. / [0.081, 0.292] sig.	
• H3a: Innovation Orientation	0.208***	[0.121, 0.345] sig.	
Product/service innovation outputs			
• H1b: Engagement	0.228*** / 0.148**	[0.155, 0.352] sig. / [0.033, 0.249] sig.	
• H3b: Innovation Orientation	0.208**	[0.132, 0.368] sig.	
Marketing innovation outputs			
• H1c: Engagement	0.279*** / -0.017 n.s	[0.225, 0.454] sig. / [-0.102, 0.063] n.s.	
• H3c: Innovation Orientation	0.781***	[0.743, 0.873] sig.	
Organizational innovation outputs			
• H1d: Engagement	0.298*** / 0.028 n.s	[0.261, 0.432] sig./ [-0.057, 0.119] n.s.	
• H3d: Innovation Orientation	0.711***	[0.634, 0.776] sig.	

*** significant at $p < 0.001$, ** significant at $p < 0.01$ (based on bootstrapping with 5000 samples). Sig. denotes a significant effect at 0.05 in the Bias Corrected and accelerated (BCa) confidence interval. n.s. denotes not significant effect at 0.05.

We assessed the direct effect of our primary hypothesis (H1), engagement on innovation outputs, and compared it with the model with the mediation. The results of the model with only the total effect (Figure 1) indicate that the greater the engagement, the greater the innovation results ($\beta = 0.390$, $p < 0.001$). In this model, engagement is able to explain 15.2% of the variance of innovation outputs ($R^2 = 0.152$). Then, we examined the mediation of innovation orientation (Figure 2). With innovation orientation as a mediator, the direct effect of engagement on innovation results drops dramatically ($\beta = 0.390$, $p < 0.001$ to $\beta = 0.05$, not significant), while there are positive impacts of engagement on the strategic innovation orientation (H2: $\beta = 0.379$, $p < 0.001$) and of the latter on innovation outputs (H3: $\beta = 0.836$, $p < 0.001$). Hence, these results support that engagement with stakeholders affects the innovation results; however, this impact is driven by the ability of companies to orientate their activity towards innovation by means of the appropriate objectives—that is, collaboration and dependence on the stakeholders is not themselves sufficient to convert companies' efforts into actual innovations: strategic orientation towards innovation is key to success.

On another level, Table 2 reveals that the innovation orientation impacts more on the marketing and organizational innovation results ($\beta = 0.781$, $p < 0.001$ and $\beta = 0.711$, $p < 0.001$, respectively) than on process or product innovation outputs. Moreover, we clearly see that engagement impacts directly on product and process innovation outputs ($\beta = 0.148$, $p < 0.01$ and $\beta = 0.192$, $p < 0.001$, respectively), and through mediation of the innovation orientation when we talk about marketing and organizational innovation outputs.

In summary, the results show that innovation orientation is a significant mediator in the relationship between engagement and innovation output. Generally speaking, in the presence of innovation orientation, the direct impact of engagement on innovation output (H1) is irrelevant and the total effect, through the mediation, is positive and statistically significant ($\beta = 0.368$, $p < 0.001$). However, we have proved a direct and significant impact of engagement on certain outputs facets, indicating a partial direct effect (H1c and H1d).

The model is able to explain 85.1% of the variance ($R^2 = 0.851$) in innovation results, where innovation orientation explains 71.6% and engagement 13.5%. Moreover, engagement explains 14.4% of innovation orientation's variance.

Discussion and conclussions.

Co-creation and external information sources are key for succeeding in innovation activities (Mina et al., 2014). Internal R&D departments and internal knowledge flows need to be complemented by external knowledge inputs to close the loop and effectively switch from a producer innovation to an end-user and collaborative innovation (Baldwin & Von Hippel, 2011). Although some authors have highlighted the need to establish a closer collaboration among the different actors at the healthcare industry (see e.g. Ii et al, 2018), and that innovating and being motivated has appeared as a clear need at the healthcare industry (García-Goñi et al., 2007).

There are, however, different actors with whom to collaborate, different ways of collaborating and different innovation outputs that can benefit from those inputs. This study offers one of the first empirical examinations of how innovation outputs in the health industry can be enhanced by strengthening relationships with its stakeholders.

It is, for several reasons, not a study based on the open innovation model (Chesbrough, 2003). Firstly, we believe, like Trott and Hartmann (2009), that firms working beyond boundaries is not a new concept; secondly, companies do not need to face a dichotomy between the closed and the open paradigm; and thirdly, the appropriability of the innovation in our study is not discussed as we define our variables as innovation outputs developed by the firm studied. As appropriability agreements, IP regimes are an important part of the open innovation paradigm, and we set a disclaimer here to clarify our discussion.

This study makes some important theoretical contributions. Firstly, we show that stakeholder engagement can boost innovation outputs in the healthcare industry. When companies get closer to their environment, retrieving information and not only endogenously collaborating but considering their stakeholders' needs and interests, the innovation orientation of the firm is improved and innovation outputs therefore also increase. One of the main contributions of our study is the empirical verification, which had been claimed by several researchers in the field (for example, Field et al., 2018). These findings reinforce the growing importance of the co-creation model (Gouillart, 2014), especially in service environments (Hardyman et al., 2015; Beirao et al., 2017). In this regard, we have also added a new theoretical approach to the co-creation model by including the social innovation perspective in a service industry. On the one hand, and following previous findings (Segarra-Oña et al., 2017), the social innovation orientation of firms is enhanced when they get close to their environment by sharing information and cooperating (Skarmeas et al., 2019). These actors provide ideas to companies that influence their social innovation orientation, reinforcing the idea that the shared value creation model is active.

On the other hand, Deloitte launched two different reports (2016a, 2016b), where the healthcare industry was identified as needing a change in its business, clinical and operating models, and needing to engage customers in order to increase care quality and value. Increasing care quality and value is not only firms' and stakeholders' objective, but societal, too, which is, by definition, social innovation. Now we have also checked how a win-win situation is created by engaging customers and other key stakeholders, while companies also benefit from this relationship.

However, we have not only empirically checked that stakeholder engagement in the healthcare industry boosts innovation outcomes.

The study provides a deep understanding of which are the stakeholders that have higher importance, what type of relations among them and healthcare companies are affecting strongly the innovation outcomes and what types of innovation outputs are improved, that have important implications in both sides, operational and managerial.

We have also answered another research question with our analysis and disentangled a strong mediating effect in this relationship caused by the innovation orientation of the healthcare firms. The effect is clear, and in relation to the research question of how stakeholder engagement affects innovation outputs in the healthcare industry, it is through impacting on firms' innovation orientation that innovation outputs are boosted.

Implications and further research

We have contributed to reinforce the academic knowledge by empirically testing Siguaw et al. (2006) framework. Besides proving that it is through improving innovation orientation that companies foster their innovation outputs, we add a previous step to this statement by checking that stakeholder engagement impacts on the innovation orientation of firms. This has not only academic implications, but especially managerial and operational, clearly indicating on whom and where to focus when setting innovation objectives.

What is, in our opinion, a very interesting point is the existing relationship between stakeholder engagement (mainly clients' engagement) and innovation orientation that has been disentangled. This is a novel perspective, because firms will mainly look to improve innovation outputs but do not realize that clients' engagement can also help them to better orientate their establishment of internal objectives and design their innovative strategic positioning. Different managerial decisions should consider these findings—for example, budget and resources allocation.

A further theoretical implication of our study is that our results uncover the relationships among healthcare stakeholders and innovation outputs by answering another research question—which are the stakeholders that have a stronger relationship with innovation outputs in the healthcare industry.

Our analysis identified clients—that is, final users, who in the healthcare industry are patients, customers of health services of goods—to be the most influential stakeholders and therefore the ones that help companies to better orientate their innovation orientation and consequently improve their innovation outputs. This supports previous literature (Baldwin & Von Hippel, 2011) but, until now, had been mainly tested in the manufacturing industry and with a focus on technological outputs.

Engagement with suppliers and competitors is also an important part of the construct. Taking a deeper look at the findings, it is the importance of the information provided by clients, suppliers and competitors that is tipping the scale. This gives managers another important insight. How to retrieve and analyse this important information is now the operational challenge.

Our study allow us to expand the analysis in two ways: firstly, by testing the results in the healthcare industry, which is a service industry, and secondly, by widening the focus, as the innovation outcomes in the analysis are mainly marketing and organizational and not technological.

In fact, results indicate that organizational, mainly marketing innovation, outputs are the ones that benefit highly from stakeholder engagement, which answers our fourth research question in relation to what type of innovation outputs can be improved by enhancing stakeholders engagement in the healthcare industry.

The marketing innovation outputs have been measured by four items: significant changes to the aesthetic design or packaging of a good or service; new media or techniques for product promotion; new methods for product placement or sales channels; and new methods of pricing goods or services. In the same vein, organizational innovation outputs are measured by new business practices for organizing procedures; new methods of organizing work responsibilities and decision-making; and new methods of organizing external relations with other firms or public institutions.

These detailed findings have important managerial and policy makers implications. If managers and health systems' responsible want to increase the effectiveness of healthcare companies' promotions, sales and pricing which are directly related to the market, then they need to promote a dialogue with customers and final users. The same is true if their intention is to improve procedures and decision-making techniques.

This study also has some limitations, as we cannot tie our findings to final users'/clients' satisfaction. We can suppose that better innovation outputs related to the improvement of internal procedures, better pricing or decision-making processes will be directly related to a higher client satisfaction, trust and loyalty. Further research should continue this path and go one step further, linking the concepts of stakeholder engagement and innovation outputs to service quality and clients' valuation.

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