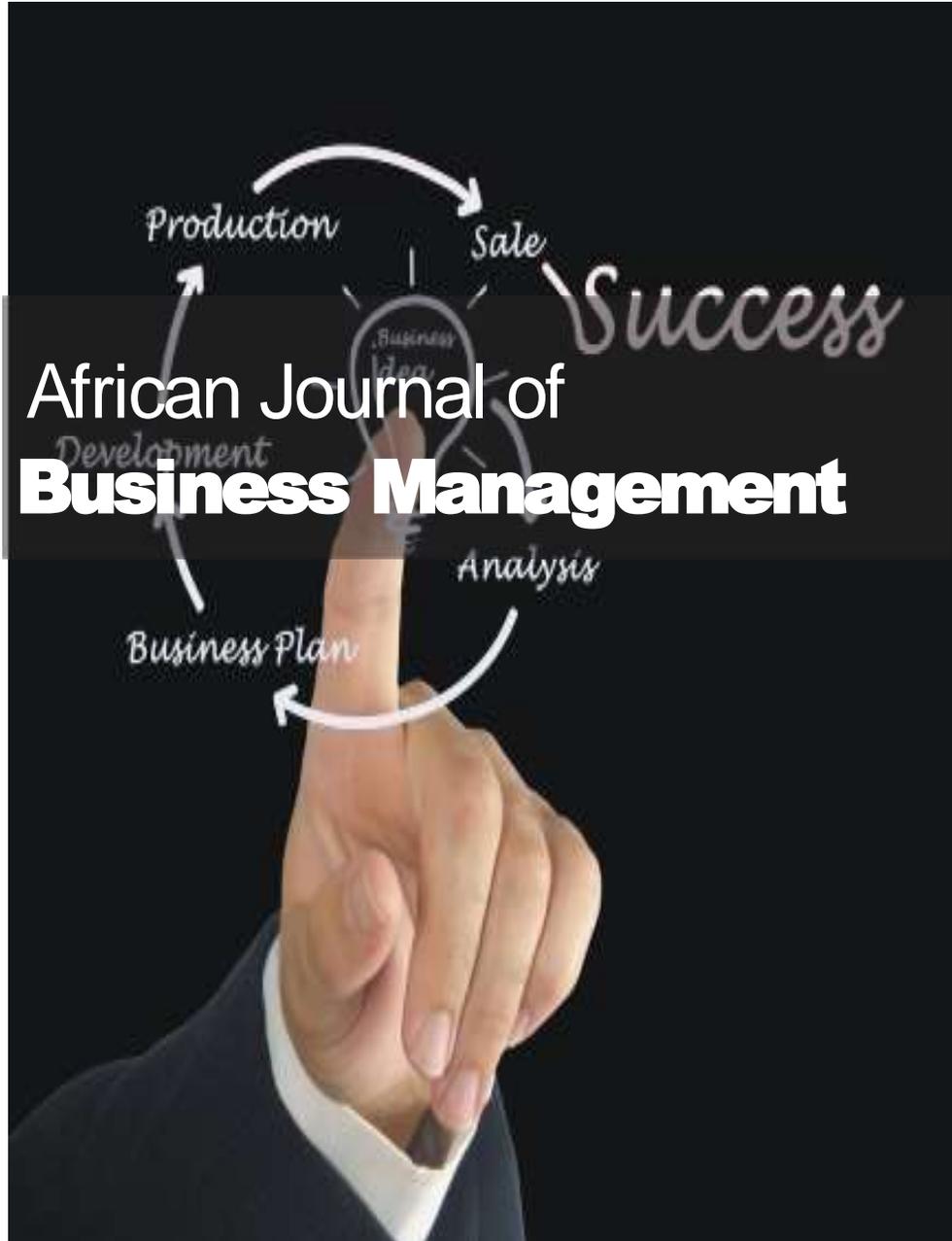


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Building brands through experiential events: When entertainment meets education

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Experiential marketing is increasingly getting companies' attention as a strategy to interact with consumers and engage them to better convey their brand image and positioning. However, its effects are still unclear both at the aggregate and individual levels. This paper addresses this topic and presents a field experiment investigating the effects of experiential marketing on brand image in retailing. Two similar consumer electronics stores with different strategies – traditional vs. experiential – constitute the setting in which a field experiment has been run. Two similar samples of consumers took part in our study by visiting one of these two stores, and answering a questionnaire before and after the visit with the primary goal to investigate the brand image and its changes due to the shopping visit. Brand image was measured as the overall brand attitude – via four items – and five specific desired brand claims that the company wanted to convey to consumers. Findings show that engaged consumers through the multisensory and interactive event arranged in the experiential store register higher levels of both brand attitude and all brand claims than those visiting the traditional store, and that the increase in both the dependent variables after the visit of the experiential store is higher than the increase in the traditional store. Thus, experiential stores are not only able to entertain consumers, but they are also able to educate them, by conveying them a set of brand claims more effectively than the traditional store.

Key words: Events, experiential marketing, field experiment, brand management, brand image, multisensoryity.

INTRODUCTION

All over the world firms are devoting much of their budgets on experiential marketing in an effort to build strong, engaging and long-lasting relationships with their customer bases. According to the 2017 Freeman Global Brand Experience Study, almost 33% of Chief Marketing Officers expected to allocate between 21 and 50% of

their budget to brand experience marketing over the next three to five years (Coffee and Monllos, 2017). Experiential marketing aims at attracting consumers' attention where traditional communication is largely ignored by the demand: According to Agency EA as reported by Adweek (Coffee and Monllos, 2017)

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89% of ad content is ignored by consumers stimulating firms to increase experiential spent at a double-digit rate in an effort to develop new appealing relationships. Engaging consumers in memorable experiences is the new challenge for firms in order to gain the competitive advantage they are looking for (Berry et al., 2002; Carbone and Haeckel, 1994; Haeckel et al., 2003; Lusch et al., 2007; Prahalad and Ramaswamy, 2003).

Despite the broad range of tangible and intangible elements that might constitute engaging customer experiences (Grewal et al., 2009; Zomerdijk and Voss, 2010), lively events appear as a key investment for experiential marketers. Traditionally regarded as residual in comparison to advertising, events now attract the interest of a growing number of companies, becoming as important as other elements of communication mix (Whiteling, 2005; Sneath et al., 2005). Many recent studies reveal that a large majority of marketers believe live events are critical to their company's success, so that their budget is expected to increase in the next future (Agency EA, 2018; Bizzabo, 2017).

African countries are not an exception. The interest towards experiential marketing is evident in the long history of the African experiential marketing summit, which started in 2007, with a special attention to experiential events. The latter are growing fast, but they are expected to grow even faster in the next future since there is a concrete need in the market according to experts as reported by The Guardian (Okere, 2015).

By enriching their offerings with emotional benefits companies aim at capturing consumers' attention, enhancing their level of involvement, and developing long lasting relationships. Events represent the perfect context in which consumers can be immersed in highly sensorial and social environments (Rappaport, 2007). Engaging social events are powerful and useful experiential tools (Raghunathan and Corfman, 2006). Literature has long recognized the effect of experiential events in attracting new customers and increase brand image, by measuring several key aspects of customers' reactions. Indeed, companies are mainly using events to drive lead generation and brand awareness, both in the B2B and B2C industries (Agency EA, 2018; Bizzabo, 2017). Other key metrics for measuring event value are new referrals and introductions, deal closure, value of sales, and upsell and cross-sell opportunities (CMO Council and E2MA, 2013).

However, in this paper, we propose to consider the educative value of events as an additional metric. Through carefully designing the whole experiential event consistently with the company's goals and mission, organizations are able to transfer brand values and to convey adequate brand image (Drengner et al., 2008; Sneath et al., 2005). We propose that in order to capture such an effect, events should be assessed also by analyzing their contribution in changing participants' perceptions about the brands. Thus, the emotional

benefits of the basis of experiential events can also teach participants something about the brands.

The focus of this paper is primarily on experiential events and their effects on customers' reactions. This research contributes to the literature by identifying a new measurement of events performances. The aim is to test the impact of experiential events on participants' knowledge about the brand and its positioning. This will eventually enlarge the range of measures that organizations should adopt when assessing the return of their investments. Indeed, despite the widespread interest towards experiential events in stores, very little empirical work examines the real impact of this marketing tool (Drengner et al., 2008; Speed and Thompson, 2000; Sneath et al., 2005). Thus, there is an increasing need for assessing the effectiveness of the events (Martensen et al., 2007).

This research tests the differential effects of an experiential event organized in a store as opposed to traditional display on brand image. Specifically, the goal of our study is to address whether multisensory and interactive events are more or less effective in improving brand image than other traditional promotional tool, generally available and adopted by organizations. Our study compares responses of participants in the event to the responses of a different sample of consumers exposed to traditional display for the same products.

We decided to perform our analysis in a retail setting, which is a context where organizations can communicate their brand values and images in either a more traditional or experiential way. Our choice is due to two reasons. First, retailing constitutes the *par excellence* touch-point between organizations and their consumers, with the former trying to leverage on each touch-point to convey a consistent message, according to the Integrated Marketing Communication framework (Grove, Carlson and Dorsch, 2007). Toward this end, in store atmospheres can be managed to elicit specific consumers' reactions, up to strongly engaging them (Bitner, 1992; Kotler, 1973; Donovan and Rossiter, 1982; Grewal et al., 2009). Second, in store atmosphere is very flexible and allows one to exploit both the functionalist and the hedonic and sensorial elements of positioning strategies (Schmitt, 1999, 2010; Lindstrom, 2006). Hence, the retailing context offers the opportunity to investigate two different marketing policies in a similar environment. The two stores were chosen because they are significantly similar in terms of positioning, target, location area, sales surface, store layout, yearly sales, number of salespeople, and products offered. Towards this end, the analysis has been run with the support of the retailer chain management.

The context that has been chosen for our experiment is home automation – otherwise known as domotics and smart home – as presented in the consumer electronics retail. This is due to three main reasons: first, domotics results from a process of converging industries, with

many competitors coming from different sectors and no defined standards yet. Thus, consumers are required to deeply analyze the offerings before purchase any domotics products. Second, retailing is also a highly competitive industry, asking retailers to innovate continuously in an effort to identify new strategies to enrich their offerings and differentiate from digital players, who represent a serious threat. Third, domotics, being a complex product, requires both consumers and sale assistants to devote much attention in sharing knowledge during the selling. Indeed, making buyers understanding the value of this kind of products is a challenge for sale assistants that have to educate consumers first and then convince them to buy domotics products. Because of these three reasons, experiential marketing can offer interesting promises to create a better selling proposition and easier interactions on the point of sales.

Indeed, our findings demonstrate that the experiential event engaged consumers more than the traditional event. Specifically, both the dependent variables show a significant higher level in the multisensorial and experiential context compared to the traditional one.

LITERATURE REVIEW

Defining events

An event can be defined as a happening in which a product or corporate brand interacts face to face with an audience, typically formed by potential or actual customers. With the term event marketing, literature refers to both marketing of events and marketing with events (Cornwell and Maignan, 1998). While the former relates to events as a kind of product, needing specific marketing strategy and policies, such as the Olympic games, the latter is usually intended as a communication tool below the line, able to elicit personal interaction between products and consumers (Sneath et al., 2005), such as for instance the Red Bull Flugtag. Since we are interested in firms using events as part of their promotional strategy, in this paper focused on marketing with events. Indeed, event marketing can transmit extensive information on the product and the brand because thanks to the self-staging of the event by the company, the active participation of the target group members and their intense social interaction firms can communicate even detailed product information (Drengner et al., 2008).

Traditionally, organizations and scholars have paid attention to events as a driver of sponsorship. According to the last estimates by IEG (2018), more than \$65 billion will be spent worldwide in 2018 on sponsorships, confirming a never-ending increase. By sponsoring an event, companies can reach specific targets and enrich the relationship with those consumers. Due to these benefits, great part of the little research conducted on

events focuses on sponsoring activities (Close et al., 2006; Cornwell and Maignan, 1998; Gwinner and Eaton, 1999). Even if sponsorship can provide organizations with several and important benefits – such as higher brand awareness according to the prestige and dimension of the sponsee's audience (Brown and Dacin, 1997; Close et al., 2006; Gardner and Schuman, 1987; Gross et al., 1987; Gwinner and Eaton, 1999; Meenaghan, 1991; Miyazaki and Morgan, 2001; Ruth and Simonin, 2003, 2006; Sneath et al., 2005) – self staged events are potentially more effective in creating and improving the brand image, given that their design is consistent with the desired brand image (Meyer and Schwager, 2007; Schmitt, 1999).

This trend has recently changed since companies have started to look at events as one of their own potential initiatives. The benefits of creating and organizing their own events – also called staged or proprietary events (Close et al., 2006) – instead of sponsoring someone else's events, are raising the curiosity of an increasing number of organizations, which nowadays rely more upon brand and consumption experience management. According to Forrester Research (2016), on average 24% of the annual budget of Chief Marketing Officers is devoted to live events in order to connect with customers, educate attendees and generate new leads. Self-staged events make easier to actively include the target group in the communication process, thus favorably promoting the communicative impact. This is because the emotions elicited by the event influence the event image and this influences as well the image of the event object (Drengner et al., 2008), hence transferring the plethora of positive feelings on the image of the brand.

Interestingly, the attention gathered by events comes both from B2B and B2C markets, since meeting customers face-to-face emerges as a powerful opportunity for companies competing in any type of market. According to the 2006 Experiential Marketing Study conducted by Jack Morton, 80% of the responding consumers regard events as the medium with the richest informative content, while 68% consider the ability of a company to engage consumers personally relevant.

Designing engaging events is a strategy adopted to enrich the offer of retailers since although customers consistently search for products online, they also plan to purchase in-store (CMO Council and E2MA, 2013). Physical environments appear as a natural context in which firms can interact with consumers by creating engaging experiences. Indeed, marketing is rediscovering any opportunity to leverage on the five senses (Areni and Kim, 1993; Bone and Ellen, 1999; Crowley, 1993; d'Astous, 2000; Yalch and Spangenberg, 2000; Morrin and Rathneshwar, 2000; Milliman, 1982, 1986; Schmitt, 1999). At the beginning, this strategy has been adopted by retailers, who have enriched their offers with music, colors, fragrances, interactive tools, and special in-store events in which customers could taste

particular products (Mehrabian and Russell, 1974; Nicholson, Clarke and Blakemore, 2002; Turley and Milliman, 2000). Nowadays, this type of promotion is spreading also to other businesses that have some direct point of contact with their customers, such as banks' branches, museum and theaters (Chebat and Dubè, 2000; Joy and Sherry, 2003), as a way to interact with consumers and to get their attention (Close et al., 2006; Davenport and Beck, 2001). Especially for organizations devoid of places to interact with consumers, events emerge as powerful, flexible and "branded" points of contact with customers (Moore, 2003).

Consequently, engaging consumers and interacting with them seems fundamental: This is why more and more organizations pay attention to build rich, valid and memorable consumption experiences for their targets (Close et al., 2006; Morin et al., 2007). But do they positively affect brand image?

Effects of experiential events on brand image

Academic literature is devoting much attention to the evaluation of the effects of marketing events (Drengner et al., 2008). The existing studies assess the impact of events using a broad range of measures, resulting in an unclear framework of objectives and indicators (Abratt and Grobler, 1989; Javalgi et al., 1994; Crimmins and Horn, 1996; Javalgi et al., 1994; Sneath et al., 2005), but recent data reveal that companies are still far from getting advantages of them, by using them to achieve superficial goals. Despite traditional measures of performance related to experiential events, it was suggested that is important to understand how events contribute in creating and enhancing brand image, which is the real goal of experiential marketing strategies and campaigns.

Brand image can be defined as "perceptions about a brand as reflected in the brand associations held in memory" (Keller, 1993, p. 3). This concept lies at the basis of the whole marketing and it is the antecedent of any differentiation strategy (Close et al., 2006; Padgett and Allen, 1997). Choosing an appropriate brand image and creating an adequate correspondence between brand attributes and brand associations is a necessary requisite for success (Salciuviene et al., 2005).

During events, people are immersed in complex multisensory contexts, which by stimulating consumers' senses increase their level of involvement and provide them with emotional holistic experiences (Langrehr, 1991; Rappaport, 2007; Schmitt, 1999, 2010). Traditional model of information processing posit that memory – measured as recall or recognition – is influenced by the manner in which information is encoded as well as the context in which information is retrieved. Hence, highly sensorial events are promising tools for companies because they are a favorable context in which brands can convey messages referring to the brand and its values easily and pleasantly. Through multisensory and

interactive events, synesthesia is reached and consumers benefit from memorable consumption experiences. Indeed, experiential marketing, aiming at creating memorable consumption experiences, embeds the brand values in every feature, paying attention to generate a consistent communication flow (Meyer and Schwager, 2007). Through environmental stimuli, firms can elicit consumers' emotions (Mehrabian and Russell, 1974; Turley and Milliman, 2000). Consequently, events represent the environmental contexts in which brands live: Hence, assessing their success means analyzing how consumers perceive brand image (Ruth and Simonin, 2003).

Even if previous studies have analyzed the contribution in changing brand image provided by both advertising and sponsorship with controversial results (Close et al., 2006; Cornwell et al., 2001; Dean, 1999; Gwinner and Eaton, 1999; Holbrook and Batra, 1987; Javalgi et al., 1994; Lardinoit and Quester, 2001), the one given by multisensory and interactive events is still unclear. According to experiential marketing literature, holistic experiences can be very effective in building brand image (Meyer and Schwager, 2007; Schmitt, 2010). Hence, it was proposed that interactive and multisensory events conveying holistic experiences, can contribute in enhancing brand image for those who take part in the event. Further, such an effect should appear also much more intense than traditional communication investments.

METHODOLOGY

To investigate the effectiveness of multisensory and interactive in-store events, a field experiment was conducted. Indeed, experimental design is considered the best way to analyze the effectiveness of events (Cornwell and Maignan, 1998). Field experiments was opted for because they capture the essence of what happens during the event better than laboratory experiments, which cannot recreate the atmosphere of the events, which is instead a key driver of the experience. The current study benefits from the reality of the contexts in which the analyses are carried out, gaining in terms of external validity with reference to the findings (Harrison and List, 2004). The experiment refers to a well-known consumer electronics retail chain, headquartered in Europe. It operates in 21 countries. In Italy, the country in which the analysis has been run, it operates almost 300 stores. The big size of this company is greatly advantageous but at the same time makes standardization difficult. Thus, its stores provide several kinds of customer experiences with no homogeneity. Several stores of the chain adopt a very traditional layout and design, based on the traditional techniques of visual merchandising. In these stores domotics is traditionally presented, by displaying separately each product without transferring the synergies among products and among products categories. Indeed, category management principles help in displaying domotics products according to their utilitarian function, i.e. alarm system, lighting control system, heating, ventilation and air conditioning, and so forth. In these stores, traditionally, the selling approach strongly depends on the ability and knowledge of the sale assistants, who play a key role.

However, in an effort to go through new value propositions, in occasion of the launch of a new line of domotics products, the company recently adopted the experiential marketing principles

to organize their own self-staged events. Thus, in one of their stores, they started to offer customers a multisensory and interactive event to recreate the benefits of the domotics according to the experiential view. Inside the store hosting the experiential event, a one-floor 100 square meters flat has been created. In the rooms of the flat, fully furnished and decorated, had all the domotics products to be promoted, installed and perfectly working, like in a real flat. Customers visiting the store during the event could enter the flat, touch everything inside, and try the functioning of all the products on their own. This event is highly sensorial, relying highly on interactive and tactile inputs. The latter have been recently explored in marketing literature, resulting as effective antecedents of consumers' favorability towards products and stores. Tactile inputs are particular beneficial for high quality products with specific regard to those aspects that are best explored by touch (Grohmann et al., 2007), but also for products rich in informational content, which need an innovative communication approach (Rust and Oliver, 1994). Product trial offers consumers the opportunities to use all the five senses to interact with products, resulting in a positive affective response regardless of the product type (functional versus hedonic) and of the involvement level (Kim and Morris, 2007). Indeed, touch provides "an enjoyable hedonic experience for the consumer" even outside of the product touch context (Peck and Wiggins, 2006: 66). Such an experiential strategy is expected to make consumers completely understand the benefits of the smart home, without asking for the traditional explanation by installers or electricians or even the sale assistants.

Our study aims to test the impact of the experiential display on brand image, and compare the results with the one gained on traditional display. Thus, our field experiment is structured as a one-factor (traditional display vs. experiential display) between subjects design. Customers took part in the experiment according to a randomization criterion. Then, they were asked to participate in the study, and have been administered a questionnaire on site both before entering and after exiting one of the two stores: The one in which the event was staged (experiential display condition), and the one in which products were featured according to a traditional utilitarian display (traditional display condition). Data have been collected in both stores during a two-week period of time in which no holidays took place, on each day of the week, both in the morning and in the afternoon. No known seasonal aspects could bias the results.

Both the pre-visit and post-visit questionnaires collected measures for the dependent variable, brand image (measured by Brand Attitude and Brand Claim Recognition scales), and the pre-visit questionnaire contained also a set of socio-demographics variables and two further scales to gather the level of familiarity with consumer electronics stores and products. The list of variables included in the questionnaire are:

Part A: Pre-visit questionnaire

Familiarity variables:

- 1) Having previously visited a consumer electronics store
- 2) Having previously purchased a consumer electronics product

Dependent variables:

- 1) Brand attitude scale – 4 items
- 2) Brand Claim Recognition scale – 5 items:
- 3) The brand improves the home comfort thanks to the automatic mechanisms
- 4) The brand let you save on energy supply by mean of a clever use of resources
- 5) The brand make your home safer
- 6) The brand allows the effective communication within rooms
- 7) The brand allows people to control the home automatic mechanisms via web and cell phone

Demographic variables were:

- 1) Gender
- 2) Age

Part 2: Post-visit questionnaire

Dependent variables:

- 1) Brand attitude scale – 4 items
- 2) Brand Claim Recognition scale – 5 items:
- 3) The brand improves the home comfort thanks to the automatic mechanisms
- 4) The brand let you save on energy supply by mean of a clever use of resources
- 5) The brand make your home safer
- 6) The brand allows the effective communication within rooms
- 7) The brand allows people to control the home automatic mechanisms via web and cell phone

In total, 150 usable questionnaires were collected for the experiential condition and 150 questionnaires for the traditional display condition. Totally, 300 questionnaires were filled.

Brand attitude was measured via the attitude toward brand scale (Sengupta and Fitzsimons, 2004; Kirmani and Shiv, 1998). The scale proposes 4-items ("bad/good," "not likeable/likeable," and "unappealing/appealing", "I do not/do like it") and their mean has to be computed. Both for traditional and experiential display, and both for pre-visit and post-visit Cronbach's alpha registered values higher than 0.9, so that it can be concluded that the scale is highly reliable. Table 1 reports the findings of the reliability analysis.

To measure brand claim recognition a set of items developed according to the specific marketing message that the company desired to convey via the event was used (Garretson and Burton, 2005). To identify the items to use in the brand claim recognition scale, previously interviewed management in charge of the event was used so that the goals in terms of brand positioning were made explicit. Thanks to these interviewees, five specific goals were identified: Organization aimed at making individuals understand the benefits of the domotics products – namely, the greater comfort, the energy saving, the safety improvement, the improvement in internal communication and the remote control.

RESULTS

Preliminary analysis

Before comparing the results of the two strategies of displaying domotics, it was checked whether the two groups are comparable with regard to the main known variables that can have a role in affecting our findings. The two groups – the one exposed to the traditional display and the one exposed to the experiential display – are pretty similar, with no significant difference regarding gender (56% and 59% of males respectively; $\chi^2=.22$; $p=NS$), age (approximately the average age is 36 years for both groups), nor previous buying behavior of electronic products (60 and 61% of previous purchase respectively; $\chi^2=.06$; $p=NS$); and visiting of electronic stores (67 and 64% of previous visit respectively ($\chi^2=.37$; $p=NS$)). Table 2 reports the main results of the preliminary analysis.

The above findings allow us to go further in the data

Table 1. Brand Attitude: Reliability Analysis and Descriptives.

Group	Construct	Cronbach's Alpha	Mean	SD	Number of items
Traditional display	Brand Attitude (pre-visit)	0.957	6.70	1.55	4
	Brand Attitude (post-visit)	0.962	6.82	1.57	4
Experiential display	Brand Attitude (pre-visit)	0.942	7.04	1.44	4
	Brand Attitude (post-visit)	0.944	7.89	1.08	4

Table 2. Preliminary analysis. Comparing traditional and experiential displays groups (Means, SD, *t*-value and *p*-value for differences).

Variables	Traditional display n=150	Experiential display n=150	Differences	
			t-test	p-value
Age	36.3	36.4	$t_{300}=0.00$	0.95
Gender	Male: 84 Female: 66	Male: 88 Female: 62	$t_{300}=0.22$	0.64.
Percentage of sample who usually buys electronic products	60%	61%	$t_{300}=0.06$	0.81
Percentage of sample who usually visits electronic stores	67%	64%	$t_{300}=0.37$	0.54

analysis to test the effects of the two displays without any potential impact of confounding variables.

Comparing the effects of experiential vs. traditional display on brand attitude

In order to compare the effects of traditional and experiential displays with regard to the two dimensions of brand image that have been included in the questionnaire, six repeated measure designs were built with brand attitude and the five measures of brand claim recognition as within-subject variables and the type of experience provided (traditional vs experiential display) as a between-subjects factor.

With regard to brand attitude, empirical findings reveal a significant main effect of the type of experience provided on attitude ($F(1,298) = 115.12$; $p < .001$), which shows a more positive brand attitude after exposure ($M_{\text{TraditionalDisplay}} = 6.82$ and $M_{\text{ExperientialDisplay}} = 7.89$) than before exposure ($M_{\text{TraditionalDisplay}} = 6.70$ and $M_{\text{ExperientialDisplay}} = 7.04$). Moreover, findings indicated that there is a significant interaction between the improvement of brand attitude experienced by participants and the type of experience in which they were involved (traditional vs. experiential display): $F(1,298) = 64.97$; $p < .001$. Thus, the effect of participation in the domotics event in the experiential display was significantly stronger in improving brand attitude than the exposure to the traditional visual merchandising. Figure 1 shows the plot of the estimated marginal means of brand attitude.

Comparing the effects of experiential vs. traditional display on brand claim recognition

Further, five repeated measure designs were done with the five measures of brand claim recognition (each separately) as within-subject variables and the type of experience provided (traditional vs. experiential display) as a between-subjects factor. Our empirical findings show that for each and every brand claim recognition item, the exposure to the display has a positive effect, and that is always stronger for those who have been exposed to the experiential display as compared to those who exposed to the traditional display of the same domotics products. More in details, findings show a significant main effect of the type of experience provided on the belief that the brand is able to improve the house comfort thanks to automatic mechanism ($F(1,298) = 134.48$; $p < .001$). Higher levels of brand claim recognition after exposure ($M_{\text{TraditionalDisplay}} = 6.34$ and $M_{\text{ExperientialDisplay}} = 8.03$) than before exposure ($M_{\text{TraditionalDisplay}} = 6.29$ and $M_{\text{ExperientialDisplay}} = 6.69$) was obtained. Moreover, findings indicate that there is a significant interaction between the enforcement of this idea and the type of situation participants experienced (traditional vs. experiential display): $F(1,298) = 117.06$; $p < .001$.

Similar findings emerge with regard to the other four items of brand claim recognition. Interestingly, for each brand claim recognition item, although also participants in the traditional condition reported higher levels of belief, such an increase was statistically significantly higher for

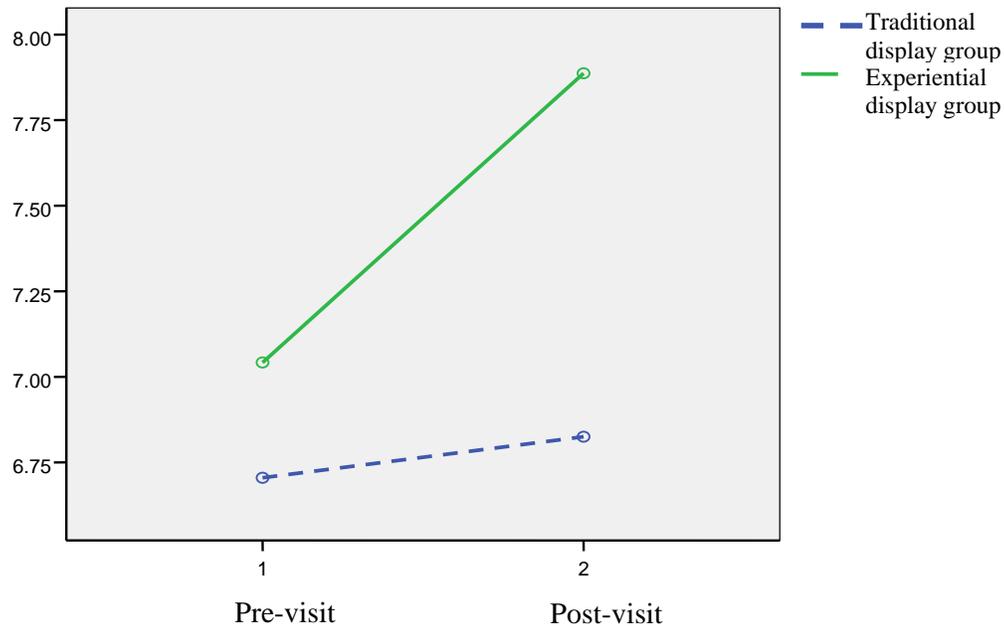


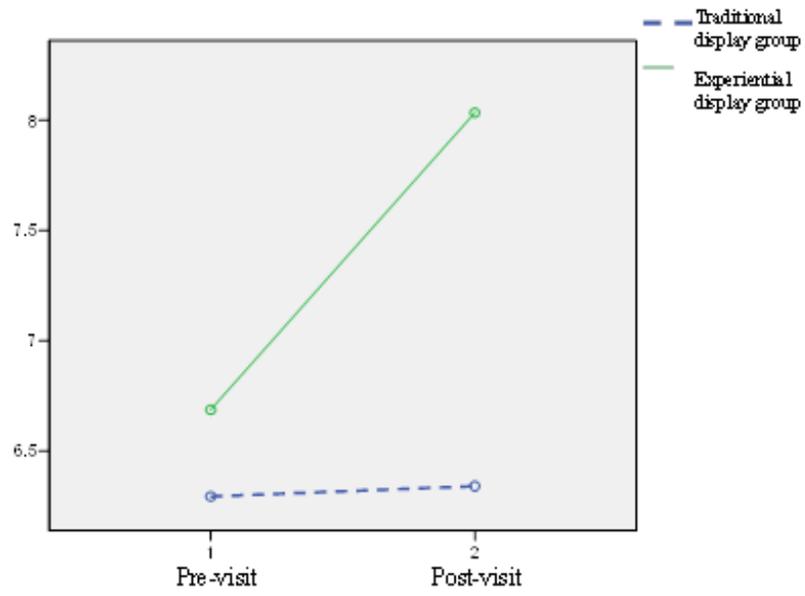
Figure 1. Estimated Marginal Means of brand attitude (traditional vs. experiential display).

Table 3. Repeated measures designs (means, SD, *t*-values and *p*-values for differences).

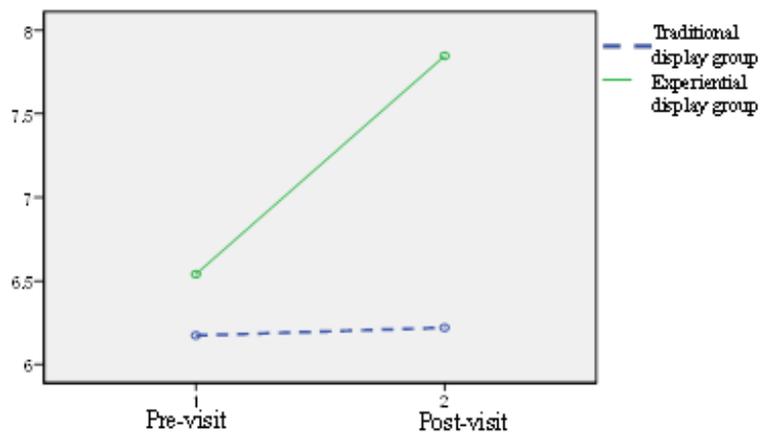
Brand Claim Recognition Variable	Group				Differences	
	Pre-exposure		After-exposure		t-value	p-value
	Mean	SD	Mean	SD		
1. The brand is able to improve the home comfort thanks to the automatic mechanisms (traditional display)	6.29	1.60	6.34	1.59	$t_{300}=134.48$	< .001
1. The brand is able to improve the home comfort thanks to the automatic mechanisms (experiential display)	6.69	1.53	8.03	1.22		
2. The brand lets you save on energy supply by mean of a clever use of resources (traditional display)	6.17	1.48	6.22	1.47	$t_{300}=142.84$	< .001
2. The brand lets you save on energy supply by mean of a clever use of resources (experiential display)	6.54	1.44	7.85	1.33		
3. The brand makes your home safer (traditional display)	6.25	1.50	6.28	1.50	$t_{300}=143.46$	< .001
3. The brand makes your home safer (experiential display)	6.63	1.43	7.95	1.32		
4. The brand allows the effective communication within rooms (traditional display)	6.31	1.50	6.38	1.54	$t_{300}=130.56$	< .001
4. The brand allows the effective communication within rooms (experiential display)	6.71	1.35	8.05	1.21		
5. The brand allows people to control the home automatic mechanisms via web and cell phone (traditional display)	6.24	1.50	6.35	1.54	$t_{300}=173.72$	< .001
5. The brand allows people to control the home automatic mechanisms via web and cell phone (experiential display)	6.66	1.40	8.09	1.18		

participants in the experiential display condition. Statistical details are reported in Table 3, while the plots of the estimated marginal means for each of the five items composing the brand claim recognition are represented in Figure 2.

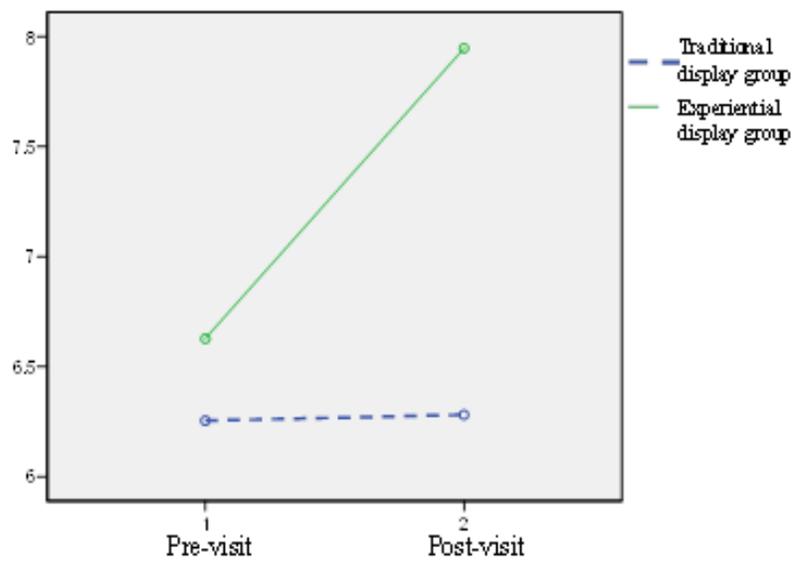
As shown in Table 3 and Figure 2, participating in the event organized in the experiential store is more effective in teaching consumers the domotics benefits – measured via the brand claim recognition items – than the traditional display. Results reveal a significant effect of



A



B



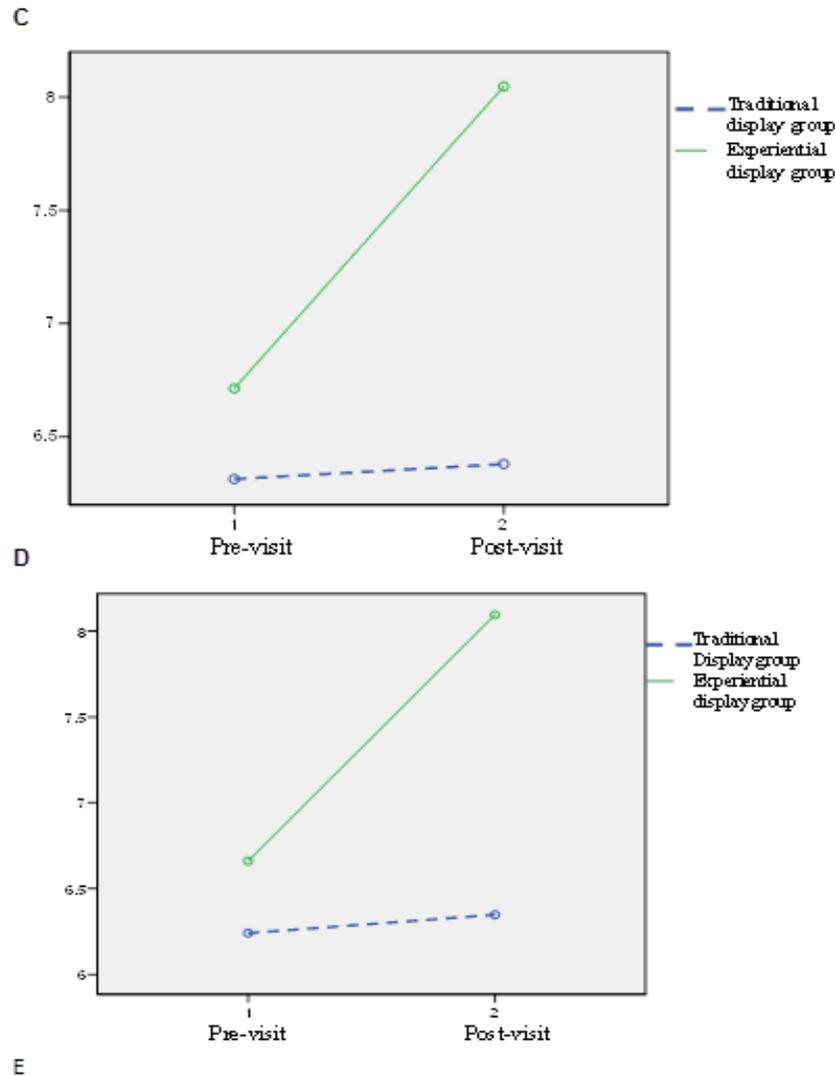


Figure 2. Estimated Marginal Means of each item of Brand Claim Recognition. A. The brand improves the home comfort thanks to the automatic mechanisms; B. The brand let you save on energy supply by mean of a clever use of resources; C. The brand makes home safer; D. The brand allows the effective communication within rooms; E. The brand allows people to control the home automatic mechanisms via web and cell phone.

the type of experience provided on the perception that the featured brand allows people to save energy ($F(1, 298) = 142.84, p < .001$). Again, a higher level of this item of brand claim recognition after visit ($M_{\text{TraditionalDisplay}} = 6.22$ and $M_{\text{ExperientialDisplay}} = 7.85$) than before visit ($M_{\text{TraditionalDisplay}} = 6.17$ and $M_{\text{ExperientialDisplay}} = 6.54$) was obtained. Findings show that there is a significant interaction between the enforcement of this perception and the type of experience provided, with the former being stronger in the event condition: $F(1, 298) = 123.82; p < .001$. Similar results for the other items of brand claim recognition were obtained. Participants enforce their opinion about the fact that the brand makes their home

safer (before the visit: $M_{\text{TraditionalDisplay}} = 6.25$ and $M_{\text{ExperientialDisplay}} = 6.63$; after the visit: $M_{\text{TraditionalDisplay}} = 6.28$ and $M_{\text{ExperientialDisplay}} = 7.95$; $F(1, 298) = 143.46, p < .001$); that it allows the effective communication within rooms (before the visit: $M_{\text{TraditionalDisplay}} = 6.31$ and $M_{\text{ExperientialDisplay}} = 6.71$; after the visit: $M_{\text{TraditionalDisplay}} = 6.38$ and $M_{\text{ExperientialDisplay}} = 8.05$; $F(1, 298) = 130.56; p < .001$) and that it allows people to control the home automatic mechanisms via web and cell phone (before the visit: $M_{\text{TraditionalDisplay}} = 6.24$ and $M_{\text{ExperientialDisplay}} = 6.66$; after the visit: $M_{\text{TraditionalDisplay}} = 6.35$ and $M_{\text{ExperientialDisplay}} = 8.09$; $F(1, 298) = 173.72; p < .001$). In all the cases, findings show that there are significant interactions between the

enforcement of the association of these claims with the featured brand and the type of experience provided: respectively, $F(1, 298) = 132.32; p < .001$; $F(1, 298) = 130.55; p < .001$; $F(1, 298) = 128.92, p < .001$.

DISCUSSION

Do the way in which products are presented affect consumers' perception of the brand? Our experimental study addresses this topic and it offers a positive answer to this question in four different meanings.

First, participating in a multisensory and interactive event in a store with offering an experiential display aiming at the creation of a unique experience improves the brand image. This result appears with both regard to Brand Attitude and the five items used to measure Brand Claim Recognition. Any of the investigated variables increases in a significant way after the participation in the event.

Second, traditional display has a positive impact on all the dimensions of brand image. Thus, our findings confirm the effectiveness of the traditional principles and practices about product category, training of sale assistants, and so on.

However – and that is our third finding – such an effect is weaker than the one produced by multisensory and interactive events in retailing. Through field study, the extent to which multisensory and interactive events hosted in a retailing setting raise participants' brand image better than a traditional display was examined. It was found that multisensory events hosted in stores with experiential display are more effective both with regard to brand attitude and brand claim recognition. Indeed, as predicted, our study confirms that when people are exposed to events based on a holistic experience their overall brand attitude increases more than when they are exposed to a traditional display, leading to brand attitude values close to 8 points out of 9. A significant interaction effect exists between the type of experience provided (traditional vs. experiential display) and brand attitude. In addition, the present study confirms that the multisensory and interactive event is able to convey to participants accurate information on the brand, showing its ability to spread the values that the organization wants to transfer to participants. Findings indicate that multisensory and interactive events help more than traditional display in enhancing the perception that the brand allows for comfort, energy saving, safety, effective communication and easy remote control. With regard to the whole set of Brand Claim Recognition Scales, exposure to the multisensory and interactive event leads to an increase between 1.29 and 1.43 points; while exposure to the traditional display leads to an increase between .03 and .11 points. Interestingly, these results emerge even given the high value of each variable prior to the exposure: In both cases, the level of these variables before the

exposure is higher than 6 points, and all of them increase after the treatment.

Finally, the significant positive impact of the experience provided in a store on both brand attitude and brand claim recognition is particularly interesting for experiential marketing literature. Indeed, experiential marketing is largely recognized as a powerful driver of intense and engaging customer relationships. Especially service organizations invest to craft the customer experience to offer highly differentiated and unique “experience-centric services” (Voss, Roth, and Chase, 2008). From the customers' perspective, experience-centric services offer emotional connections, made possible by a careful experience design of myriad elements as for any servicescape (Bitner, 1992; Grove and Fisk, 1997). Thanks to tangible and intangible service elements in the service-delivery system, organizations develop their experience-centric services (Grewal, Levy and Kumar, 2009; Zomerdijk and Voss, 2010), emotionally engaging their customers (Sorescu et al., 2011).

As a consequence, an increase of brand attitude is commonly regarded as a key result of any investment in experiential marketing. Our findings on brand attitude confirm such a general belief. However, to the best of our knowledge, a similar impact of experiential marketing on specific brand beliefs has never been tested: Experiential marketing is effective not only to increase the general consumers' attitude toward the brand, but also to transfer consumers some key messages about the brand. Experiential marketing value is twofold: It is able to entertain and to teach consumers. Multisensory and interactive events emerge as an effective powerful communication tool to convey brand claims and improve brand attitude, even for transferring values far from the perceived brand positioning.

Conclusion

The primary goal of this manuscript is to explore how multisensory and interactive events contribute in building brand positioning (Close et al., 2006; Morin et al., 2007; Sneath et al., 2005). Although events are increasingly considered as a powerful communication tool to engage consumers and to enhance their attitude toward the brand, the differential effect of these tools in comparison to other marketing strategies is yet not well defined. Literature, in fact, does not define a clear framework for measuring directly the influence of events neither to compare them. This gap needs to be filled, especially nowadays, with a large number of organizations investing in multisensory and holistic experiences in order to differentiate themselves from the rest of the market and to develop strong, engaging and long-lasting relationships with their customers. Key experiential cases include the project Healthy imagination by General Electric proposed to 700 industry professionals and

based on storytelling by doctors operating also in a rural African clinic, and the recent investment by Nivea in Cape Town named NIVEA SunSlide, a giant inflatable slip 'n slide for entertaining kids and educating their parents about sunscreen creams.

Toward the aforementioned end of our study, the study was aimed at exploring the relationship between multisensory and interactive events and brand image. In particular, the study focuses on measuring and evaluating the real impact that this type of events can provide to companies' brand image. Specifically, thanks to a field experiment, the contribution that events provide to enhancing brand image was investigated, and comparison of this contribution with the one offered by traditional display in a retail setting was made.

Multisensory and interactive events improve participants' brand attitude and they also convey the particular messages the company wants to deliver. These findings are in line with the theoretical framework that deems multisensory and interactive events as a powerful tool for companies that want to communicate and relay brand values by positively rising brand image (Ruth and Simonin, 2003). They also extend the perspective undertaken by Close et al. (2006) that considers mainly sponsorship as a valuable tool to increase brand image.

Moreover, the multisensory and interactive event appeals to consumers better than traditional display; it allows for a deeper understanding of the ideas and the messages that the organization want to deliver. This findings support the theoretical approach that underlines the importance, for a company that does not have its own retail environment, of performing multisensory and interactive events to create direct touch-points with customers.

This study also provides some guidelines for managers that want to exploit the opportunities offered by multisensory and interactive events. Despite the importance of this tool within companies' marketing mix, managers are not provided with a clear understanding of what multisensory and interactive events can really help to achieve. Toward this goal, this work clearly shows that multisensory and interactive events contribute to enhance brand image. Multisensory and interactive events engage consumers, leading to more positive associations with the brands. Further, our study provides highlights that justify and support the use of multisensory and interactive events in specific settings rather than traditional display. Finally, it helps managers to evaluate concretely the contribution that multisensory and interactive events provide to the organizations and particularly to the brand, by showing how to measure their impacts.

However, in order to measure the success of this marketing tool, organizations must (1) firstly define their goals clearly, and, (2) design the events accordingly. Those are two relevant preliminary steps of their marketing process.

Interestingly, multisensory and interactive events are

powerful even for brands which are already perceived favorably by consumers, and even for situations in which the messages the organization aims at transferring are far from the actual brand positioning. In these cases consumers' multisensory stimulation strongly facilitates the transfer of brand image benefits.

This study, like most, suffers from some limitations. First, the specific analyzed multisensory and interactive events might not be representative of all the kinds of happenings that companies can organize. In future researches, it would be necessary to take into consideration this element and try to extend these findings to other type of multisensory and interactive events. Another potential limiting factor is the specific setting where the field experiment took place, the retailing environment. While we were interested in comparing the contribution of this multisensory and interactive event with a traditional display, this might limit the generalizability of the study. Comparing the effectiveness of multisensory and interactive events with sponsorships would be of particular interest for organizations evaluating the relative benefits of these two marketing options. In future research, this should be an element to take care of. Further, estimating the contribution that hosting a company's multisensory and interactive events might have for the housing company (i.e. the retailer) and evaluating the aspect for which they are convenient for both firms could be of interest for organizations willing to adopt co-marketing strategies. Finally, identifying the antecedents of the success of events, such as their level of multisensory stimulation and of interaction, is as a relevant topic for future research.

Apart from these weaknesses, our study benefits from a real event, providing a more realistic context than the one generally used in laboratory experiments. Specifically, the aim of this event was twofold: (1) to improve the brand attitude among the final consumers; and (2) to teach consumers the key benefits offered by a highly complex product category such as domotics. Our study reveals that experiential marketing can help companies to achieve both goals, so that entertainment goes hand by hand with education. The two kind of befits provided by experiential marketing generate higher level of brand image than only leveraging on educative investments. Customers can learn brand benefits in many different ways, including having sale assistants explaining them and processing visual merchandising indications. But when education meets entertainment customers learn better. Are companies ready to teach while entertaining? Future case studies will provide us with the answer.

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CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

The impact of open innovation practice on innovative performance through intellectual capital: Empirical study on SMEs

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Open innovation (OI) practices and intellectual capital (IC), though from developed countries and large firms' perspective, are related to higher innovative performance. But the influence of OI paradigm on IC and consequently on firms' innovative performance in the context of developing countries is not yet sufficiently explored. This study examined the link between OI practice and IC and their influence on the firms' innovative performance using a survey data of 243 manufacturing small and medium-sized enterprises (SMEs) operating in Ethiopia. Partial Least Squares (PLS) approach was applied to explore the relationships and test the mediating role of intellectual capital. The research findings indicated that OI practice has a positive and significant impact on intellectual capital and innovative performance in SMEs. It also revealed that human and organizational capitals have a significant positive effect on the innovative performance of SMEs. Moreover, the finding showed that only human capital mediates the positive influence of OI practice on the innovative performance. Managers/owners should work to improve the OI practice and intellectual capital simultaneously to augment the innovative performance of SMEs.

Key words: Innovative performance, intellectual capital, open innovation practice, small and medium-sized enterprises (SMEs).

INTRODUCTION

In the globalized and dynamic business settings, open innovation (OI) is anticipated to be one of the emerging future paradigms for managing innovation activities. In this paradigm, the internal and external ideas and paths are considered equally vital for the commercialization of innovation activities (Chesbrough, 2003; Lee et al., 2010). Recently, the subject has received an increasing

attention from researchers, practitioners and governmental bodies. Nonetheless, prior studies on open innovation focused primarily on high-tech and large enterprises. Currently, few studies have analyzed OI practice in the context of SMEs focusing on the differences of OI practices in small and large firms (Lee et al., 2010; Spithoven et al., 2013; Popa, Soto-Acosta

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and Martinez-Conesa, 2017). Little attention is given to the connection between OI practice and performance of SMEs (Hailekiros et al., 2016; Popa et al., 2017). In addition, most of the studies on OI are descriptive by nature and based on case studies, and in-depth interviews of large and high-tech enterprises operating in developed countries (Chesbrough, 2003; Lee et al., 2010; Popa et al., 2017).

Furthermore, the relationship between OI and related management paradigms such as knowledge management which could bring synergy to firms' management solutions is not well explored (Užienė, 2015). Intellectual capital is one of the key knowledge management theories determined in transforming tangible resource into intangible assets. It deals with strategic management and has a close link with innovation activities (Kohl et al., 2015). The association among intellectual capital, OI practice, and innovation capabilities is witnessed in various contexts (Fan and Lee, 2009; Laine and Laine, 2012; Kohl et al., 2015). However, comprehensive researches on the effect of OI practice on intellectual capital and subsequently innovative performance in SMEs are meager (Užienė, 2015). Additionally, there are yet research gaps in the literature about the effect of intellectual capital (Shih et al., 2010; Mention, 2012) and OI practice (Popa et al., 2017) on the innovative performance of SMEs. The gap is even huge when it is assessed from the developing countries' perspectives (Spithoven et al., 2013; Khalique and Bontis, 2015; Hailekiros et al., 2016).

Therefore, empirical study on the impact of OI practices on intellectual capital and consequently innovative performance of SMEs in general and specifically in developing countries is imperative (Užienė, 2015; Hailekiros et al., 2016). A research model was developed based on literature from open innovation, intellectual capital, and innovative performance to study the relationship between OI practice and intellectual capital and their influence on the innovative performance of SMEs operating in Ethiopia- a developing country. The paper has important contributions. First, previous studies on OI practices and intellectual capital were focused primarily on high-tech and large enterprises in advanced economies (Lee et al., 2010; Hung and Chiang, 2010; Spithoven et al., 2013; Popa et al., 2017). Hence this paper provides evidence from SMEs operating in a developing country. Besides, the extant literature on OI practice yet relies, predominantly on case studies and conceptual frameworks (Lee et al., 2010; Popa et al., 2017). The paper further delivers empirical based research findings from the context of SMEs. Finally, the paper throws light on the mediation role of intellectual capital on the relationship between open innovation practices and innovative performance of SMEs. The remaining sections of the study are organized into literature review and hypotheses development, research methodology, and analysis, and finally discussion and

conclusion.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The impact of open innovation practice on innovative performance in SMEs

Firms had been using the research and development (R&D) as a key facility to discover, develop and finally commercialize innovations in the closed model (Chesbrough, 2003). But globalization and fast advancing information technology have changed the innovation milieu (Wang and Zhou, 2012). The availability and mobility of knowledgeable workers have increased largely, venture capital becomes abundant and knowledge is widely dispersed across multiple organizations. Enterprises are forced to move to the OI models to efficiently and effectively utilize the internal and external resources, acquire knowledge and exploit the technologies (Chesbrough, 2003). OI practice is similarly a common inclination to SMEs (Lichtenthaler, 2008; Van et al., 2009). They try to survive the severe competition and achieve their sustainable and competitive advantages through innovation. Nonetheless, high level inherent risk, uncertainty, and complexity of innovation process (Koufteros et al., 2005), limited resources (Dahlandera and Gann, 2010; Lee et al., 2010), lack of multidisciplinary competence base (Bianchi et al., 2010), low absorbing capacity (Wang and Zhou, 2012) and other relevant challenges may restrict their innovative competitiveness. Likewise, the mobility of skilled workers, the availability of abundant venture capital, widely distributed knowledge and very short product life cycles make the isolated innovation infeasible (Chesbrough, 2003). Hence, many and broad companies both large and small are practicing and increasingly adopting OI to complement their inadequacies (Van de Vrande et al., 2009; Parida et al., 2012; Hailekiros et al., 2016).

Indeed, SMEs are faced with limited resources, skills and capabilities in manufacturing, distribution, marketing, R&D funding, and structural innovation processes which are indispensable for transforming inventions into innovations (Lichtenthaler, 2008; Leiponen and Helfat, 2010). However, they are usually flexible and specific (Lee et al., 2010), high-risk takers, with more specialized knowledge and proactive for market changes (Parida et al., 2012). These factors favor SMEs to better benefit from OI practices compared with their larger counterparts. In this regard, the inbound, outbound and coupled OI processes (Gassmann et al., 2010; Spithoven et al., 2013; Hailekiros et al., 2016) are possible paths towards opening for SMEs. While the inbound open innovation process deals with searching for external ideas and data for complementing, strengthening the in-house R&D activities, outbound focuses on uncovering

the process of commercializing the unexploited internal innovation activities. The coupled OI combines both processes centered on strategic alliances (Spithoven et al., 2013). These processes are vital for SMEs to fill their technological, resource and competency gaps (Lichtenthaler, 2008), increase the speed and quality of innovations (Van de Vrande et al., 2009) and respond to market changes and thereby create new channels (Van de Vrande et al., 2009; Lee et al., 2010).

The inbound, outbound and coupled OI practices and their combination are possible choices firms adopt to overcome their deficiency and build up competitive and sustainable advantages from the internal and external resources. Nonetheless, the inherent high cost of patent management (Spithoven et al., 2013) and the inadequate capabilities to establish balanced relationships with established firms (Narula, 2004; Minshall et al., 2010) limit the regular adoptions of outbound and coupled OI in SMEs. Hence, the OI practice in SMEs opts more towards the inbound mode (Van de Vrande et al., 2009; Lee et al., 2010). Considering the trend and the actual practices of the SMEs at hand, the focus of this paper is on the inbound open innovation practices.

SMEs have restricted resources, they have to search for possible ways that compensate their constraint and minimize production cost, effectively market their products and provide satisfactory support services (Lee et al., 2010). They have to formally or informally tie with other organizations and institutions (Bigliardi et al., 2012). These connections are critical for them to access new ideas, knowledge, complementarity resources from the external environment and opportunity to commercialize on the shelf innovations (Dahlandera and Gann, 2010). Moreover, it aids them to get an additional resource on existing or new markets through the competencies and resources of external partners (Mortara and Minshall, 2011) and new opportunities and market channels (Buganza and Verganti, 2009). Thus, the following hypothesis is established.

Hypothesis 1: OI practice has a positive and significant effect on the innovative performance of SMEs.

Intellectual capital and innovative performance of SMEs

Intellectual capital is all the knowledge of an organization that is used to leverage conducting business to achieve competitive advantages (Youndt et al., 2004; Subramaniam and Youndt, 2005). In this knowledge-based and competitive era, the intellectual capital is accepted as the dominant factor for the realization of organizations and countries' economic growth (Subramaniam and Youndt, 2005; Alpkan et al., 2010; Khalique and Bontis, 2015). It is also becoming the unique competence factor for firms' innovativeness

(Zerenler et al., 2008). Consistent with this Tovstiga and Tulugurova (2007) pointed out that the intellectual capital is the most powerful resource to increase the performance of organizations.

Previous researchers classified IC as human, organizational and social capitals based on how knowledge is developed, accumulated and distributed (Subramaniam and Youndt, 2005). Human capital is the tacit and explicit individual knowledge possessed by employees and shared with their organizations to create values. It includes the employees' experiences, abilities, learning or creation abilities (Youndt et al., 2004) and can be enriched by training and formal education (Dakhli and De Clercq, 2004). It is useful to conduct firms' activities to change their action and enhance growth (Delgado-Verde et al., 2016). The social capital is the knowledge rooted in and among networks of interrelationships. It is available and utilized through the network (Freel, 2000). It is the relational knowledge from stakeholders' ties including customers, suppliers, competitors, universities and the firm's internal environment. It represents a valuable knowledge source to accomplish activities efficiently (Subramaniam and Youndt, 2005). Finally, the organizational capital represents the codified and institutionalized knowledge and experience residing in and utilized through the organization's repository like databases, manuals, patents processes and the like (Subramaniam and Youndt, 2005; Carmona-Lavado, Cuevas-Rodríguez, and Cabello-Medin, 2010).

Basically, the IC components are closely intertwined and mutually dependent (Subramaniam and Youndt, 2005). Highly skilled and experienced employees use their knowledge base to analyze and solve customer problems (Subramaniam and Youndt, 2005). This process facilitates attempts to exchange and share information to learn customer preferences in a sustained manner (Hsu and Fang, 2009), which in turn promotes the exchange and utilization of valuable information between internal professionals and external consumers. This again enhances the generation of innovative ideas that respond to customer preferences (Chen et al., 2014). Accordingly, the knowledge and skills from human capital embedded in new service or product development are expected to contribute positively to social capital. Contrasting the human capital, organizational capital is embedded in organizations infrastructure rather than in employees' minds (Chen et al., 2014; Subramaniam and Youndt, 2005). This gives firms competitive advantages in advancing their collection of knowledge from customers and understanding customers' needs and preferences (Chen et al., 2014). When firms sustain a good relationship with customers and business partners, it creates a conducive environment for their employees to discuss business ideas, processes and innovations with customers and business partners thereby updating the structural capital of the companies (Hsu and Fang, 2009). Similarly, when employees involve in knowledge-based

discussions, they would exchange their knowledge with colleagues. This knowledge flow would upsurge the importance of the existing knowledge as expanded knowledge becomes valuable and meaningful. The organizational capital is a mechanism to take advantage of the information and knowledge. Similarly, it is a mechanism to capture, store, retrieve and communicate the knowledge and information (Chen et al., 2014).

Hence, the employees' skills and knowledge, experiences, attitudes, and commitments supported by the required infrastructure and harmonized and loyal relationship with strategic partners and customers create encouraging environments to develop distinctive competency. This distinctive competence can enhance a firm's effectiveness, efficiency, and innovation (Zerenler et al., 2008). It, consecutively, allows firms to provide better values and benefits for customers than the competitors (Hill and Jones, 2001). When a firm has a unique competency, it can achieve a higher innovative performance (Garcia and Calantone, 2002). Consequently, the following hypotheses are formulated.

Hypothesis 2a: Human capital has a positive and significant effect on innovative performance in SMEs.

Hypothesis 2b: Social capital has a positive and significant effect on innovative performance in SMEs.

Hypothesis 2c: Organizational capital has a positive and significant effect on innovative performance in SMEs.

Open innovation practice and intellectual capital

The knowledge inflows and outflows from the diverse knowledge sources like universities, customers, competitors and the like positively influence the knowledge stock of the firm through organizational learning (Laine and Laine, 2012). Similarly, the inter-organizational knowledge exchange is crucial for creating organizational new knowledge (Fan and Lee, 2009). Thus, considering intellectual capital as a bundle of organizational knowledge, increasing knowledge flows across organizational boundaries triggered by OI paradigm changes the content and level of knowledge stock in organizations. However, the level and means of the effect of OI practice on the intellectual capital components are anticipated to be different based on their type and nature. The OI practice establishes new partnerships and the social capital tends to expand and becomes more diverse. The increased inter-organizational knowledge exchanges caused by the opening also changes substantially the landscape of human capital by diversifying the knowledge borrowing and lending dimensions (Užienė, 2015). Furthermore, as the organizational value creation schemes go beyond organizational boundaries the relational capital acquires a

matrix form under this paradigm. Hence, organizations could access the systems shared by partners and could get the advantage from these in joint value creation processes and increase the organizational capital. Accordingly:

Hypothesis 3a: Open innovation practice has a positive and significant effect on social capital in SMEs.

Hypothesis 3b: Open innovation practice has a positive and significant effect on human capital in SMEs.

Hypothesis 3c: Open innovation practice has a positive and significant effect on organizational capital in SMEs.

The mediating role of intellectual capital

The open innovation practice promotes opening up firms boundaries to let the flow of knowledge in and out and advances firms' innovativeness (Chesbrough, 2003). This knowledge flow is also a critical factor for organizational knowledge creation which in turn increases a company's innovation abilities and competitive advantage (Fan and Lee, 2009). Consequently, the positive impact of OI practice on innovation performance and competitiveness can be enhanced by increasing the knowledge stock (Intellectual capital). Hence, the following hypotheses are claimed.

Hypothesis 4a: Human capital mediates the positive effect of open innovation on innovative performance in SMEs.

Hypothesis 4b: Organizational capital mediates the positive effect of open innovation on innovative performance in SMEs.

Hypothesis 4c: Social capital mediates the positive effect of open innovation on innovative performance in SMEs.

Synthesizing these discussion and hypotheses claimed, a research framework that describes the connections among open innovation, intellectual capital, and innovative performance in SMEs is formulated (Figure 1).

RESEARCH METHODOLOGY

Sample and data collection

A survey was conducted from 08/2017 to 02/2018 to collect the data used to explore the effect of open innovation on intellectual capital and consequently innovative performance in SMEs. The survey questions were designed to assess the OI practice, intellectual capital, and innovative performances of SMEs. The initial survey draft was discussed with the firms' owners, managers, and relevant governmental agency representatives. It was pre-tested using 20 pilot interviews to check if the wording,

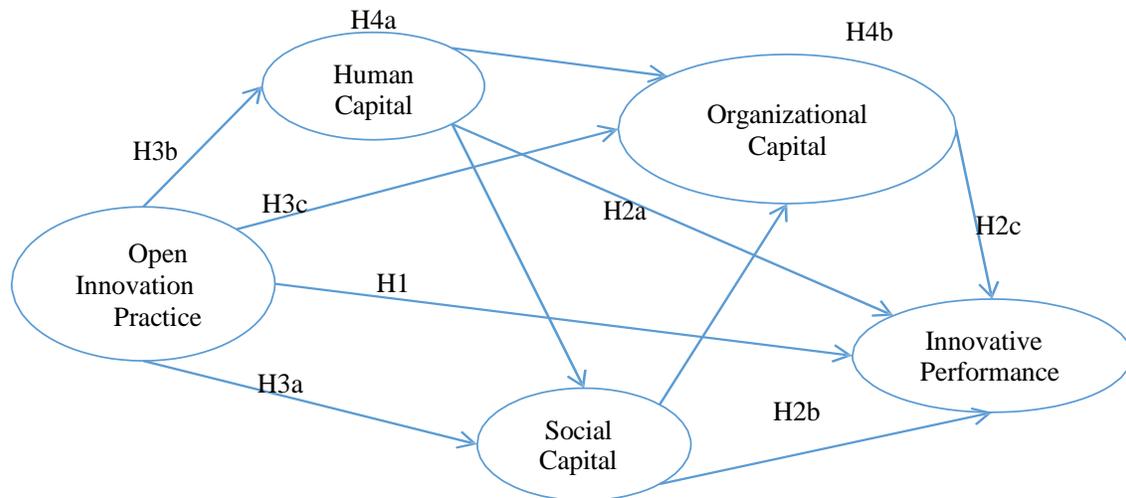


Figure 1. Research Framework.

comprehensibility, and sequencing of questions were acceptable.

SMEs relevant to the study were first screened from the master database in consultation with the representatives from the SMEs agents. The firms for the survey were then randomly selected from manufacturing firms comprising the metalwork, woodwork, textile and garment, leather, metal, and woodwork enterprises operating in the Northern part of Ethiopia. Considering the representativeness of the sector and zones covered in the study, four hundred firms were selected. The questionnaire was first given to each interviewee and the questions were asked face-to-face in the same order. 243 interviews were correctly and successfully performed, leading to a response rate of 60.75%.

The respondents who completed the questionnaire were mostly the owners as well as managers of the firms (92.6%), and managers but not owners (7.4%). The respondents were selected from the sectors (metalwork = 26.5%; woodwork = 23%; textile and garment = 26.5%; leather = 2%; metal and woodwork = 23.5%). Furthermore, the firm's operational age ranges from 4 to 23 years. The data were first screened and SmartPLS was applied for evaluating the model and testing the hypotheses.

Measurement of constructs

The measurement scales for the constructs were established based on existing academic literature and operational definitions. Accordingly, the OI practice measurement scale was developed based on concepts from (Laursen and Salter, 2006; Spithoven et al., 2013; Ahn et al., 2015). Eight items measurement scale was used to assess how the linkages with partners benefit SMEs. A 5-point Likert-scale (ranging from 1= less important to 5= very important) was adopted to measure the parameters. The measures for human capital assessed the overall expertise, skill, and knowledge of an organization's employees. Likewise, measuring items for social capital assessed the organization's ability to exchange and leverage within and among networks of employees, customers, suppliers, and alliance partners. The organizational capital measures the ability of the organizations to appropriately store knowledge in physical organization-level repositories. A five, five, and four items measurement scales were adopted from (Subramaniam and Youndt, 2005) to assess the human, social and organizational capitals, respectively. A 5-point Likert-scale

from 1 (strongly disagree) to 5 (strongly agree) was applied to measure the parameters. Finally, the innovative performance was measured with seven items scales used by (Gunday et al., 2011). Similarly, a 5-point Likert scale from 1 (much worse performance than competitors) to 5 (much better performance than competitors) was applied to evaluate the innovative performance.

RESULTS AND DISCUSSION

SmartPLS- SEM version 3.0 was used as a data analysis tool. It is a second generation tool which applies a component-based approach to SEM (Hair et al., 2016). It uses a two-step process to separately assess the measurement and the structural models. The first step, the measurement model, evaluates the validity and reliability of the scales. The second step, structural model, evaluates the research model and the paths among the research constructs.

Measurement model evaluation

As the measures are all reflective the individual item and construct reliability, the convergent and discriminant validity of all items should be studied to examine the measurement model. The factor loadings, composite reliability (CR) and average variance extracted (AVE) were used to assess item reliability, construct reliability and convergence validity respectively as recommended by (Hair et al., 2016). The minimum cutoff values are set at 0.7, 0.7 and 0.5 for factor loadings, CR, and AVE respectively. To achieve the loading cutoff point, three items from OI practice construct and one item from innovative performance construct which did not reach this value was dropped to maintain parsimony (Hair et al., 2016) Finally, as it is shown in Table 1 the factor loading,

Table 1. Measurement of model evaluation.

Construct	Measures	Loading	CR	AVE
Human capital	HC1	0.848	0.932	0.734
	HC2	0.877		
	HC3	0.889		
	HC4	0.817		
	HC5	0.851		
Innovative performance	IP2	0.708	0.895	0.587
	IP3	0.777		
	IP4	0.715		
	IP5	0.797		
	IP6	0.779		
	IP7	0.814		
Organizational capital	OC1	0.869	0.882	0.600
	OC2	0.805		
	OC3	0.862		
	OC4	0.893		
Open Innovation practice	OI4	0.807	0.917	0.736
	OI5	0.782		
	OI6	0.74		
	OI7	0.769		
	OI8	0.774		
Social capital	SC1	0.805	0.923	0.705
	SC2	0.833		
	SC3	0.857		
	SC4	0.862		
	SC5	0.839		

CR: composite reliability; AVE: average variance extracted.

Table 2. Discriminant validity.

S/N Variable	1	2	3	4	5
1 Human capital	0.857				
2 Innovative performance	0.661	0.766			
3 Organizational capital	0.762	0.648	0.858		
4 Open innovation	0.661	0.652	0.651	0.775	
5 Social capital	0.827	0.640	0.774	0.691	0.839

CR, and AVE values are all above the suggested thresholds. Hence the items measurement reliability, internal consistency reliability, and convergent validity are satisfactory and sufficient.

Lastly, discriminant validity was assessed through the Fornell and Larcker (1981), which states that each latent construct's AVE should be greater than the construct's highest squared correlation of another latent construct. Table 2 shows that the correlation matrix of the constructs and the square roots of AVE (diagonal and bold). The diagonal values are all larger than the off-diagonal values in the respective rows and columns,

signifying adequate discriminant validity.

Structural model evaluation

Once the measurement evaluation criteria were fulfilled, the goodness of the theoretical model should be determined. Structural model can be evaluated using the coefficient of determination (R^2) and the strength of path coefficients (β) derived from bootstrapping techniques (Chin, 2010). Besides, as the hypotheses formulated in this research involved mediation relationships, the

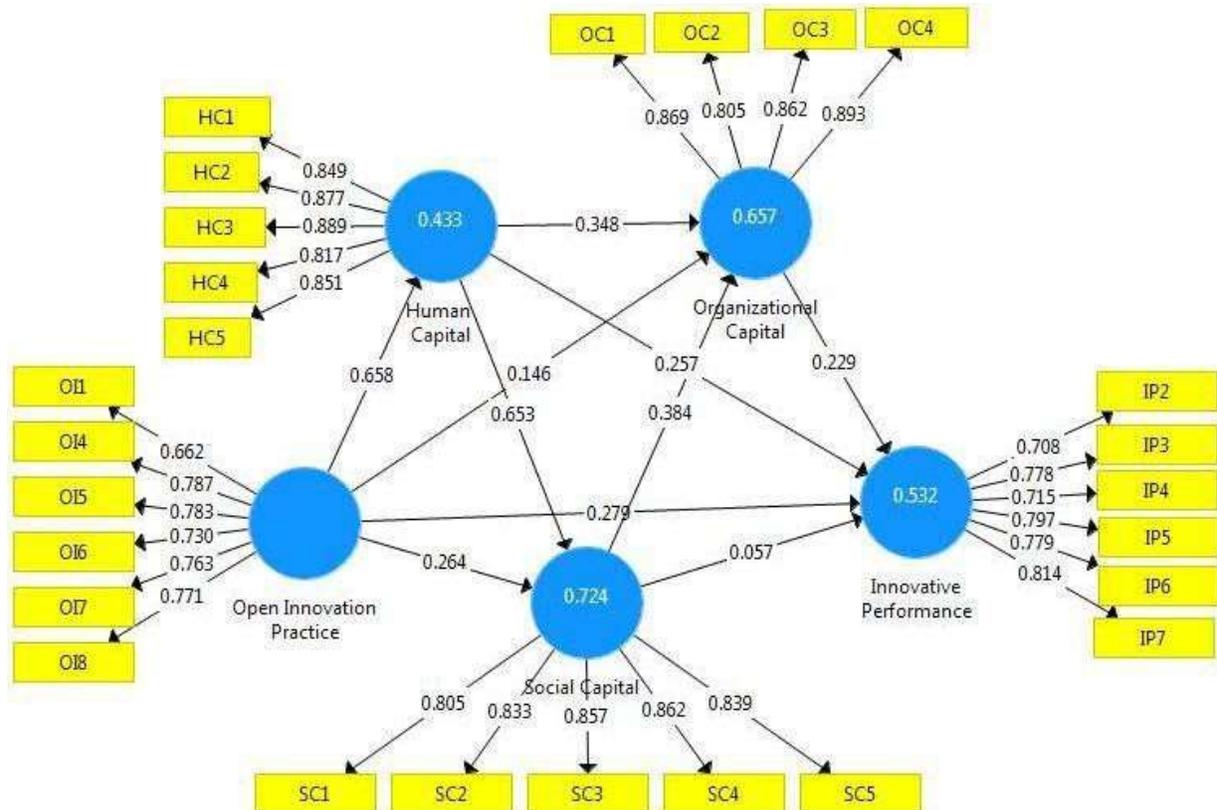


Figure 2. Structural model evaluation results.

Table 3. Hypothesis testing-direct relationships.

Hypothesis	Path	β	S.E	T-Statistics	Result
H1	OI -> IP	0.311***	0.067	4.6	Supported
H2a	HC -> IP	0.249**	0.082	3.034	Supported
H2b	SC -> IP	0.054n.s	0.085	0.64	Rejected
H2c	OC -> IP	0.214**	0.076	2.82	Supported
H3a	OI -> SC	0.256***	0.06	4.31	Supported
H3b	OI -> HC	0.661***	0.043	15.4	Supported
H3c	OI -> OC	0.164**	0.064	2.55	Supported

Note: ** $p < 0.01$; *** $p < 0.001$; n.s=not significant

OI=Open Innovation Practice; HC= Human Capital, IP= Innovative Performance; OC=Organizational Capital; SC= Social Capital, β =Path coefficient; S.E=standard Error.

significances of the indirect effects were verified by the variance accounted for (VAF) analysis (Hair et al., 2016). Figure 2 and Table 3 summarize the results of the final model. Table 3 summarizes the results of the proposed hypotheses. Accordingly, the OI practice has positive and significant direct influence on both the intellectual capital and the innovative performance, supporting H3a, H3b, H3c, and H1. Moreover, the organizational and human capitals have a positive and significant direct influence on the innovative performance, confirming H2a and H2c. But

the impact of social capital on the innovative performance is not significant, rejecting H2. The explanatory power of the model was examined using the coefficient of determination (R^2) value (Hair et al., 2016). R^2 denotes the extent of variance in the endogenous constructs explained by the exogenous variable/s (Chin, 2010). As depicted in Figure 2, the R^2 results indicate a robust model with 72% of the variance in the social capital, 66% of the variance in the organizational capital, 54% of the variance in the innovative performance and 44% of the

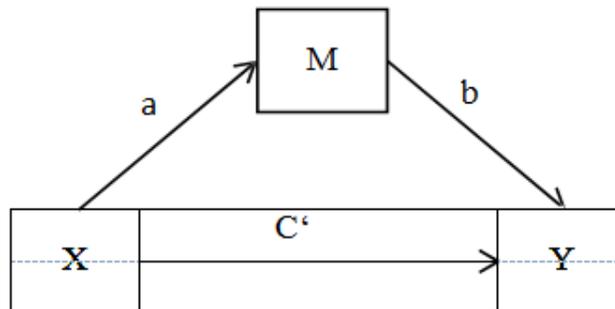


Figure 3. Mediation model.

variance in the human capital explained by the independent variable/s.

The analysis of mediation effects

Mediation occurs when causal predecessor X influences the outcome variable Y through intervening variable M (Figure 3). The whole effect of X on Y is divided into direct and indirect components. The route from X to Y without passing from M is called direct effect and represented by c' . The path from X to Y through M is called the indirect effect. The indirect effect coefficient ($a \times b$) is the product of a and b . The full effect (C) is hence the accumulation of direct and indirect effects ($C=c'+ a \times b$).

The bootstrapping approach was applied to check the mediation effect. The bootstrapping approach does not make any assumptions about the shape of the variables' distribution or sampling distribution of the statistics. It can be used to small sample sizes with high confidence. The approach is therefore flawlessly fit for the PLS method. Besides, this approach exhibits higher statistical power compared with the Sobel test. As suggested by Hair et al. (2016), the significance of the individual paths (X-M and M-Y) is a requirement for the mediation condition. Moreover, the indirect effect is assessed by the size of its effect relative to the total effect (Indirect effect/Total effect) described as variance accounted for (VAF). When the indirect effect is significant but does not absorb any of the exogenous latent variable's effect on the endogenous variable, the VAF would be less than 20% which implies almost no mediation. Conversely, when the VAF has relatively large outcomes (above 80%) a full mediation occurs. When the VAF value is between 20 and 80% the situation is characterized as partial mediation. Table 4 shows the bootstrapping results including direct, indirect, total effects and VAF for the paths with the potential mediating factors. Accordingly, as the impact of social capital on innovative capital is insignificant, the mediation role of social capital between open innovation practice and innovative performance (H4c) is not supported. The

other mediating factors were evaluated with respect to the VAF, as the values of a and b are significant. Given the VAF values, the impact of OI practice on the innovative performance is partially mediated by human capital. But the organizational capital has an insignificant role in mediating this effect. Hence H4a is supported but H4b is dropped. Furthermore, the result from Table 4 confirms that the impacts of social and human capital on the innovative performance are partially mediated through the organizational capital.

Conclusion

This paper examined the link among OI practice, intellectual capital, and innovative performance using a sample of 243 manufacturing SMEs operating in Ethiopian. A conceptual model which delineates the relationships was developed and evaluated using the SmartPLS. Empirical results revealed that OI practice has a significant and positive effect on the innovative performance of SMEs, supporting H1 ($\beta=0.311$, $t = 4.60$, $p<0.001$). This implies that SMEs in developing countries may increase their innovative performance by implementing the open innovation practices. This result similar to Hung and Chiang (2010) findings validated the relationship between open innovation and firms' performance. The finding reveals that the open innovation practice is a common trend both for large and SMEs in developed and developing countries. It also shows that adopting an open approach is worthwhile for companies to improve their innovative performances. The effects of open innovation practice on social capital (H3a: $\beta=0.256$, $t = 4.31$, $p<0.001$), human capital (H3b: $\beta=0.661$, $t = 15.40$, $p<0.001$) and the organizational capital (H3c: $\beta=0.164$, $t = 2.55$, $p<0.001$) were also positive and significant. This result suggests that SMEs in developing countries may enhance their intellectual capital using open innovation practices. These findings illustrated that open innovation practice is critical for SMEs to get technological resource (Lichtenthaler, 2008) and new channels (Lee et al., 2010, Van de Vrande et al., 2009)

Table 4. Hypothesis testing-mediating effect.

Hypothesis	Path	C'	a	b	(a*b)	(c'+ a*b)	VAF (%)	Mediation
H4a	OI -> HC -> IP	0.31 ***	0.661***	0.249**	0.1646	0.476	34.61	Partial
H4b	OI -> OC-> IP	0.311***	0.164**	0.214**	0.0351	0.346	10.14	No
H4c	OI -> SC -> IP	0.311***	0.256***	0.054n.s				No
	HC ->OC--> IP	0.249***	0.341***	0.214**	0.073	0.322	22.66	Partial
	HC ->SC--> IP	0.249***	0.658***	0.054n.s				No
	SC ->OC--> IP	0.054n.s	0.379***	0.214**	0.0811	0.135	60.03	Partial

Note: ** p < 0.01; *** p < 0.001; n.s=not significant

VAF: Variance accounted for; a*b: indirect effect; c'+a*b: total effect, VAF%: indirect/Total effect.

that enhance the quality and speed of their innovations (Van de Vrande et al., 2009). They also showed that OI practice is critical for them to access new ideas, knowledge, supplementary resources and opportunities from the external environment which could improve the stock of knowledge (human, organizational and social capital) in the company (Laine and Laine, 2012).

Moreover, the impacts of the intellectual capital components on the firm's innovative performance were also investigated independently. The results discovered that human capital is positively and significantly associated with innovative performance in SMEs, supporting H2a ($\beta=0.249$, $t = 3.034$, $p<0.01$). This finding supports the previous result from Zerenler et al. (2008) and Alpkan et al. (2010). In fact, when SMEs are equipped with highly skilled employees they are capable to perform and innovate better. The impact of organizational capital was similarly found to be positively and significantly connected to the innovative performance, supporting H2c ($\beta=0.214$, $t = 2.82$, $p<0.01$). This implies as the organizational capital of SMEs is enhanced, SMEs create capability to improve their products and processes, which further boost their innovative performance. This result is consistent with previous findings that approved the critical role of organizational capital for the innovative performance (Zerenler et al., 2008; Leitner, 2011). But the association between social capital and innovative performance was attested to be insignificant and H2b ($\beta=0.054$, $t = 0.64$, n.s) was rejected. This result contradicts the discoveries of Zerenler et al. (2008) and Hsu and Fang (2009). The impact of social capital on the innovative performance was found to be indirectly through the organizational capital. Hence the impact of social capital can be improved through the development of organizational capital. Finally, as presented in Table 4 the relationship between OI practice and innovative performance is partially mediated by human capital (H4b). In contrast, the mediation role of social capital (H4c) and organizational capital (H4b) are not supported.

The paper has important theoretical and practical contributions. First, previous studies on OI practices and intellectual capital were focused primarily on high-tech

and large enterprises in advanced economies (Lee et al., 2010; Spithoven et al., 2013; Popa et al., 2017). The findings of this paper could expand our understanding of the connection among open innovation practice, intellectual capital and the innovative performance from the context of SMEs operating in a developing country, which could also provide good implications to SMEs operating in similar situations. Secondly, the prevailing literature on OI practice yet relies, predominantly on case studies and conceptual frameworks with little empirical research in the context of SMEs (Lee et al., 2010; Popa et al., 2017). Therefore, the paper supplements the literature on the effects of open innovation practice on intellectual capital and subsequently on the innovative performance by assessing empirically. This provides additional evidence to elucidate the conclusive results.

Furthermore, the study adds to the body of knowledge on the impact of OI practice on the elements of intellectual capital and the interplay among the different intellectual capital components. Finally, the paper throws light on the mediation role of intellectual capital components on the positive impact of open innovation practice on the innovative performance of SMEs.

From practical perspectives, the findings hold crucial implications for managers. First, the result shows that OI practice is a key factor in enhancing the innovative performance in SMEs. The innovative performance in SMEs can be considerably improved by pursuing open innovation practice designed to stimulate new idea sharing, knowledge creation, and supply of complementary resources, new market opportunities, and channels. It was likewise found that innovative performance needs more intellectual capital, indicating that managers should highly emphasize on developing and wisely utilizing the intellectual capital. Specifically, firms should train employees to enrich their work experience and improve human capital, develop a close relationship with their stakeholders to enhance the social capital and design efficient systems to improve structural capital. Another key finding is that human capital reinforces the positive effect of open innovation practice on the innovative performance in SMEs. Hence, equipping employees with the required skill and knowledge is a

critical issue to increase the effect of open innovation practice on the innovative performance of SMEs.

Lastly, the findings of this paper are specific to manufacturing SMEs operating in Ethiopia. Generalizing the results to all industry and all sizes of enterprises need further investigations based on both cross-sectional and longitudinal data. In addition, with more openings, the spread of intangible knowledge across firms' boundaries could erode the unique assets of firms and could create challenges in managing the intellectual capital. Therefore, it needs further investigation.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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