Absorptive capacity and small family firm performance: exploring the mediation processes

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Abstract

Purpose – *Despite the recognized importance of knowledge management for small family firms, relatively little empirical research has been done so far to understand the mechanisms through which absorptive capacity (AC) assists their performance. The purpose of this study is to understand the relationship between absorptive capacity and performance in small family firms.*

Design/methodology/approach – *In this study, the authors theoretically argue and empirically validate that AC enables the creation of entrepreneurial, market and technology orientations in small family firms, which, in turn, lead to superior firm performance. They also tested the study's hypotheses using mediation and multiple linear regression analyses on data collected from 272 small Indian family firms.*

Findings – *The study's findings suggest indirect relationship between AC and performance. The strategic orientations provide a mechanism through which investments in small family firms' AC results in firm performance.*

Practical implications – *This study offers crucial insights to practitioners and small firm managers regarding the use of knowledge-based capabilities in creating appropriate strategic postures, which, in turn, assist firm performance.*

Originality/value – *This study is among few research attempts in understanding the knowledge aspects of small family firms. The present research contributes to the existing literature by unravelling the relationship between knowledge management and small family firm performance. Also, by bringing in data from an under-studied context of an emerging economy, this study strengthens the theoretical applicability of knowledge management in different contexts.*

Keywords *Entrepreneurial orientation, Market orientation, Realized absorptive capacity, Potential absorptive capacity, Small firm performance, Technology orientation*

Paper type *Research paper*

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Introduction

The ability of a firm to recognize, acquire and commercialize external knowledge, known as its absorptive capacity (Cohen and Levinthal, 1990), merits special attention for small family firms for numerous reasons. As small family firms often face stiff competition, dynamic environment, resource constraints and threats of survival (Chirico and Salvato, 2008), acquiring and utilizing accurate and relevant knowledge becomes one of the most crucial sources of sustained competitive advantage (Schiuma, 2012). Also, small family firms typically generate a lot of tacit knowledge owing to long tenures of leaders in such firms (Lee *et al.*, 2003; Sharma, 2000), making it all the more difficult to manage knowledge. The family firms also face difficulty in valuing and acquiring new ideas, and intra-firm knowledge transfer owing to cultural attitudes (Casprini *et al.*, 2017). Finally, given that family firms are "based on a culture of continuity, inclinations to consider the future and support for perseverance" (Moss *et al.*, 2014, p. 53), managing knowledge across generations becomes imperative. To be successful, family firms need to have a very clear understanding of opportunities that exist in the environment and an

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ability to exploit those opportunities (De Massis *et al.*, 2012a). Accordingly, given the importance of knowledge acquisition and assimilation for small family firms, it is imperative to understand the linkages of absorptive capacity (AC) with the firms' performance.

AC represents the ability of the firms to recognize, assimilate and apply external knowledge for meaningful commercial use (Cohen and Levinthal, 1990). Extant research on AC has offered different perspectives. On one hand, it is argued that firms with a higher AC are in a better position to understand the value of useful external knowledge prevailing in the environment, and exhibit an ability to transform this knowledge into enhanced performance (Lane and Lubatkin, 1998). AC also enables identification and modification of external knowledge to generate indirect benefits such as strategic decision-making effectiveness and innovation (Kostopoulos *et al.*, 2011; Donate and Guadamillas, 2011). Thus, AC becomes a source of sustained competitive advantage by enabling the integration of new and existing knowledge (Arbussa and Coenders, 2007; Escribano *et al.*, 2009). On the other hand, there are researchers who argue negative or no benefits of AC (Lichtenthaler, 2016; Wales *et al.*, 2013).

Accordingly, the exact nature of the AC-performance relationship remains ambiguous as there is "disagreement as to whether this impact is direct or mediated by some other variables, such as organizational processes, decision-making and other intermediate performance indicators" (Mills and Smith, 2011). We believe that one of the reasons for these inconclusive findings is the contextual impact of AC on firm performance. As firms of different age, size and characteristics utilize different mechanisms of knowledge acquisition and exploitation, it is unlikely that the relationship would be straightforward. In this study, we make an attempt to address the research question – what is the nature of AC–performance relationship and what are the mechanisms through which AC creates an impact on small family firm performance?

To test our theoretical arguments, we used survey data collected from family firms in India employing 10 to 50 people. Our key hypotheses that AC enables entrepreneurial orientation and technology orientation, which in turn lead to firm performance, were validated. However, we did not find support for the mediating role of market orientation in the AC–performance relationship. In doing so, we contributed to the literature of family firms. We proposed a theoretical model of the mechanisms through which knowledge exploitation impacts small family firm performance.

Our findings have crucial implications for small family firms, as well as firms in the emerging economies. Most research on knowledge management and AC reflects the experience of large professional firms (Gray, 2006). This study made a unique contribution by exploring the underlying mechanisms through which AC impacts small family firm performance. Also, most research in family businesses is conducted in the western countries. India provides a unique and relevant setting for understanding the issues of family businesses. As pointed out by Sharma (2000, p. 5) – "family firms dominate the Indian business landscape, making up almost all of the 6 million small – and medium-size businesses there". This study took one step in this direction and tried to understand issues of knowledge management in family firms of an under-explored context.

Our investigation of AC in small family firms revealed that to acquire sustainable competitive advantage, family firms need to adequately combine and reconfigure their existing knowledge with new knowledge arising in the environment. This will enable firms to act entrepreneurially, understand what their customers need and match the pace of external technological changes, all of which in turn will translate into superior performance.

Theory and hypotheses

AC is a multidimensional construct, with several researchers having distinctively attempted to define its dimensions in a myriad ways. Numerous scholars have variously linked absorptive capacity to organizational learning (Cohen and Levinthal, 1990;

Lane and Lubatkin, 1998), innovation (Kedia and Bhagat, 1988; Guisado-González *et al.*, 2017) and dynamic capabilities (Zahra and George, 2002; Andreeva and Kianto, 2012), and even offered resource-based (Barney, 1991) and knowledge-based views (Grant, 1996; Sasson and Douglas, 2006). Drawing on the literature of organizational learning, Cohen and Levinthal (1989) initially defined AC to be the "firm's ability to create new knowledge", which enables it "to learn to do something quite different". Zahra and George (2002), building upon the earlier work of Cohen and Levinthal (1990), termed AC as the "dynamic capability pertaining to knowledge creation and utilization" and defined it as "a set of routines and processes by which firms acquire, assimilate, transform and exploit knowledge". The term "dynamic" refers to the organization's capability to "renew competencies so as to achieve congruence with the changing business environment" (Teece *et al.*, 1997). While Teece *et al.* emphasized the role of an organization's resources and processes in achieving competitive advantage, Grant (1996) reasoned the role of knowledge as the "most strategically significant resource of the firm". The basic premise of knowledge-based view is role of firm to integrate knowledge and create new capabilities. Thus, following Zahra and George (2002), we view absorptive capacity as dynamic capability in this study.

AC entails four interrelated capabilities (Zahra and George, 2002). Acquisition capability represents the ability of the firm to search and identify knowledge relevant to the organization. "Once the new knowledge is identified and perceived to have value, it is transferred across the boundary of the firm" (Daspit and D'Souza, 2013, p. 301). The next step entails absorption of this newly acquired knowledge. This capability – known as assimilation capability – helps firms to analyze and interpret new knowledge in the context of existing knowledge (Jansen *et al.*, 2005). At this stage, firms assess whether the structure of new knowledge fits with the structure of previous knowledge in the firm (Daspit and D'Souza, 2013). The next stage involves modifying and adapting new knowledge and combining it with existing knowledge to discover new possibilities. This capability is called transformation capability and proceeds the final stage of knowledge management – exploitation, which entails the use of knowledge to create value for the firm and its customers (Daspit and D'Souza, 2013; Jansen *et al.*, 2005; Zahra and George, 2002).

Recognition and assimilation of external knowledge are collectively referred to as potential AC, while the transformation and exploitation of this knowledge are called realized AC (Zahra and George, 2002). Consistent with the recent research, we break AC into its related but differing components to understand their implications for family firm performance. Potential AC assists realized AC in the development of different organizational and strategic capabilities (Duchek, 2013; Lev *et al.*, 2009). While potential AC represents knowledge creation capabilities, realized AC enables firms to create new offerings based on the stock of knowledge created (Flor and Oltra, 2013). While knowledge acquisition and assimilation are crucial organizational processes, they do not directly translate into superior firm performance (Chirico and Salvato, 2008; Andreeva and Kianto, 2012). Firms need to reconfigure and exploit knowledge to benefit from the same. Accordingly, in line with the recent research in AC, we believe that a firm's AC impacts performance sequentially whereby firms first acquire knowledge through their potential AC, which, in turn, facilitates exploitation through realized AC (Ali and Park, 2016; Ben-Oz and Greve, 2015; Leal-Rodríguez *et al.*, 2015).

The mediating role of entrepreneurial orientation

Entrepreneurial orientation (EO) is the ability of the firms to exhibit entrepreneurial practices and behaviors. EO enables firms to respond proactively to the changing environment, offer innovative solutions and undertake calculated risks in the pursuit of growth (Lumpkin and Dess, 2001) and has been accepted as a crucial determinant of family firm performance. Firms that are risk-averse avoid investments in searching and exploiting new opportunities

(De Massis *et al.*, 2014). However, firms that are proactive in responding to environmental changes, and are willing to take risks in exploiting new opportunities, are more likely to exhibit superior performance. Firms with a high entrepreneurial orientation typically perform well as "entrepreneurial firms are able to pursue high-quality opportunities in the marketplace" (Engelen *et al.*, 2014, p. 1358). An entrepreneurial posture is all the more critical for family firms as it enables them to acquire growth across generations (Beck *et al.*, 2011).

A firm's commitment to continuously gather new knowledge and reconfigure its existing knowledge with newly acquired knowledge plays a crucial role in its exhibition of an entrepreneurial posture (Floyd and Lane, 2000). Only when firms are able to understand the opportunities that exist in the environment are they able to act upon them (Engelen *et al.*, 2014). Firms with robust knowledge management processes tend to apply their knowledge toward creation of innovative products and solutions (Du Plessis, 2007). The exploitation of external knowledge helps family firms in expanding their knowledge base, recognizing new opportunities that exist in the market, managing their resources effectively and promoting new products and technologies (Forés and Camisón, 2016). Realized AC "injects new ideas into the organization, increases the capacity to understand new ideas and strengthens creativity and the ability to identify new opportunities" (Cepeda-Carrion *et al.*, 2012). Accordingly, we believe that a family firm's realized AC enables them to exhibit a higher entrepreneurial orientation, which in turn facilitates enhanced performance. Thus, we hypothesize the following:

H1. For family firms, entrepreneurial orientation fully mediates the relationship between realized AC and firm performance.

The mediating role of technology orientation

Technology orientation represents a firm's commitment toward monitoring and adopting new technologies (Dvir *et al.*, 1993). Firms that are technology-oriented display a strong commitment toward research and development, and invest in technological resources and capabilities for enhanced strategic decision-making. The need of exhibiting a technology orientation is all the more critical for family firms operating in dynamic environments (De Massis *et al.*, 2012a, 2012b). Family firms apply long-term perspective, placing a strong emphasis on creating reputation, enhancing market scope and share and conducting R&D activities (Moss *et al.*, 2014). A strong technological expertise enables firms to systematically explore and exploit new opportunities arising in the environment, which otherwise go unnoticed by most small players. To match the pace of rapid technological changes in products, processes and markets, family businesses need to discover opportunities where they can use new technologies (Shane, 2000). Consequently, a high technology orientation translates into superior firm performance (Gatignon and Xuereb, 1997). Technological capabilities are also helpful in nurturing competitive advantage and in overcoming financial downturns (De Massis *et al.*, 2012b, 2012a).

We propose that family firms with a higher AC are more likely to explore and exploit new technological opportunities. Firms apt at acquiring new knowledge and reconfiguring their existing knowledge tend to be updated with latest technologies (Van den Bosch *et al.*, 1999). When firms build on their previous knowledge, they are far more likely to be aware of the latest technologies and innovations (Engelen *et al.*, 2014, p. 1358). Successful transition to newer technologies entails knowledge inputs from diverse internal and external sources. As pointed out by Chang *et al.* (2014, p. 471) – "absorptive capacity could combine internal and external knowledge, and apply the two kinds of knowledge in relevant knowledge-creating communities to develop new products and creative services". In sum, the ability of the family firms to acquire, assimilate and reconfigure relevant knowledge leads them to understand and use cutting-edge technologies in their areas of operations, which, in turn, assists them in improving their performance. Accordingly, we hypothesize as follows:

H2. For family firms, technology orientation fully mediates the relationship between realized AC and firm performance.

The mediating role of market orientation

Customer needs and demands keep evolving over time, and it becomes imperative for firms to be aware of the market trends to deliver superior value to customers (Beck *et al.*, 2011; Narver and Slater, 1990). Accordingly, market orientation – defined as the generation, dissemination and utilization of market knowledge (Kohli and Jaworski, 1990) – is a crucial determinant of firm performance. Market-oriented firms keep customers at the center of their strategy, give the highest priority to the needs of their customers and commit resources for gathering market intelligence. Market orientation is rooted in successful firms' culture and their underlying business philosophy (Zachary *et al.*, 2011). Numerous studies in the family business literature have found positive implications of market orientation in family firms (Beck *et al.*, 2011; Subramanian and Gopalakrishna, 2009).

As gathering market intelligence is of utmost importance to market-oriented firms, their previous stock of knowledge regarding customer trends and market-related opportunities is helpful in fostering market orientation. Accordingly, we expect firms with a higher AC to be better equipped in creating sustainable customer value (Zachary *et al.*, 2011). AC is a dynamic capability that allows firms to use their existing knowledge in understanding the demands of their customers and the actions of their competitors (Ali and Park, 2016). Firms can explore new product-market opportunities by recombining their existing knowledge. Knowledge transformative processes play a crucial role in creating customer value and identifying uncontested markets (Flor and Oltra, 2013).

Also, AC of the family firms equips them with the necessary information required to achieve competitive advantage. It has often been argued that family firms are somewhat inefficient at gathering competitive information and slow in their response to competitor actions (Zachary *et al.*, 2011). But firms that have the ability to acquire, assimilate and reconfigure competitive information are better placed at using this information to their advantage. In sum, family firms with a higher AC are more likely to be market oriented, which in turn leads to enhanced performance. Hence, we propose the following:

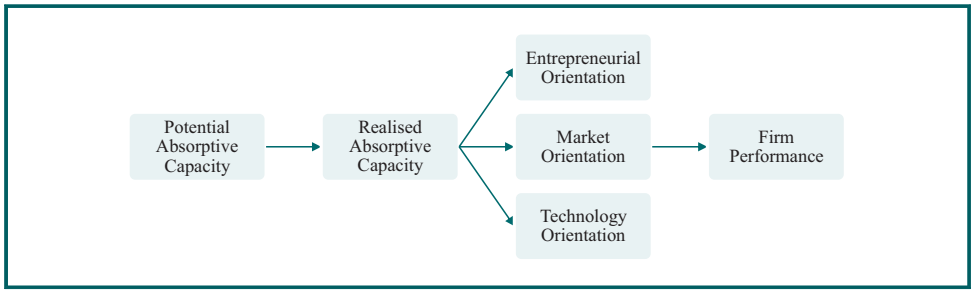
H3. For family firms, market orientation fully mediates the relationship between realized AC and firm performance (Figure 1).

Method

Sample

Data for this study were collected from small family firms in the business of manufacturing, selling and servicing automotive vehicles and spares. Small firms were chosen as they are dependent on external knowledge, owing to their lack of R&D capabilities (Gray, 2006). Our

Figure 1 Research model



sample comprising firms in one industry ensured the elimination of confounding effects of industry (Adams, 1999). In line with the previous research, firms employing more than 5 and less than 250 employees were used as small family firms (Anderson and Eshima, 2013). A population of about 800 firms was created by compiling the service directories and websites of automotive manufacturers and ancillaries in India as India is one of emerging economy with unique social context that are different from developed countries (Nadkarni and Herrmann, 2010). From this, a random sample of 400 firms was obtained to collect the data. Data were collected from the months of December 2015 to March 2016. It took the respondents on an average 30 minutes to fill the questionnaire. The survey was administered to the founder entrepreneurs themselves or to a second-generation member of the family who was involved in the operations of the firm for a significant period as these people are most likely to be aware of the strategy of the firm (Qian and Acs, 2013). While most respondents were comfortable with the language used in the questionnaire, some required assistance in the translation of some items. It was ensured that the translation was accurate and consistent across all respondents. A total of 210 questionnaires were received on the spot, while 74 questionnaires were collected back from the firms upon subsequent visits. Twelve questionnaires that were either incomplete or not filled by the desired respondents were dropped. This resulted in the final sample size of 272 firms for analysis.

Measures

The questionnaire was designed in English, and all variables were measured using existing constructs. To gather the responses, the items were placed on a seven-point Likert scale. A higher score on each scale indicated a higher commitment.

Absorptive capacity: Operationalization of AC is subject to lots of controversies. However, simplified proxies such as age, size and R&D intensity have been ineffective in capturing the complexities of AC (Debrulle *et al.*, 2014). Scholars have, hence, called for empirical exploration of AC as non-R&D construct and as an organization's capability (Lane *et al.*, 2006). Accordingly, to capture the complete process of knowledge acquisition, assimilation, transformation and exploitation as a dynamic capability, we used the seven-item scale of potential AC and eight-item scale of realized AC proposed by Jansen *et al.* (2005). In line with the previous research, the acquisition and assimilation dimensions were clubbed to create potential AC, while transformation and exploitation dimensions were joined to create the realized AC scale. The negative items in this scale were dropped as they do not work well with the respondents of emerging economies (Aggarwal-Gupta *et al.*, 2010; Wong *et al.*, 2003). A sample item of potential AC scale is "We collect industry information through informal means", and an indicative item of realized AC is "We constantly consider how to better exploit knowledge". The scales demonstrated acceptable reliability: α = 0.72 for potential AC, α = 0.74 for realized AC.

Entrepreneurial orientation of the firm was measured using 11-item scale of Wang (2008) capturing the innovativeness, risk-taking, proactiveness and competitive aggressiveness of firms. A sample item of this scale is "In the past five years, our organization has marketed a large variety of new lines of products or services". In line with existing research, the scale was operationalized as a gestalt unidimensional construct (Covin *et al.*, 2006). Cronbach's alpha for this scale was 0.73.

Market orientation was captured with the five-item scale of Engelen *et al.* (2014). A sample item of this scale was – "Our firm has the ability to gather information about customers and competitors compared to most important competitor". Cronbach's alpha for this scale was 0.91.

Technology orientation was operationalized by using four positively worded items in the scale proposed by Voola *et al.* (2012). A sample item in this scale was – "We are often one

of the first in our industry to detect technological developments that may potentially affect our business". Cronbach's alpha for this scale was 0.71.

Firm performance was captured through a multi-faceted four item subjective scale of Dvir *et al.* (1993) covering financial objectives, performance relative to customers, sales objectives and success in capturing new opportunities. This operationalization has been found to be effective in previous research, especially in the context of small businesses (Gupta and Batra, 2016). To further validate the subjective operationalization, we checked its correlation with the objective turnover data achieved from a small subset of 30 firms. The correlation was significant, thus further reaffirming the validity of the construct.

Control Variables: As firm age and size influence the acquisition and assimilation of knowledge (Gray, 2006), we controlled for the same in this study. Further, in line with previous research, we controlled for industry-level characteristics such as market turbulence and competitive intensity.

Model Fit: All constructs demonstrated acceptable Cronbach's alpha and composite reliability (CR) values. Further, we conducted a confirmatory factor analysis on SEM to examine the model fit. The overall model exhibited acceptable fit indices (CMIN/DF = 1.91; CFI = 0.86; RMSEA = 0.06).

Non-response bias: Data collected through survey method are prone to numerous biases. To ensure that our findings are robust, we tested our data for various potential sources of bias. To test for non-response bias, we compared the means of key variables for two different samples – one comprising 30 firms that returned the filled-in questionnaires on the spot and another sample comprising 30 firms that returned their responses after multiple requests. No significant difference was found on any of the parameters, eliminating the possibility of non-response bias.

Common method bias: Next, we tested for common method variance through multiple tests. First, Harman's single factor test was conducted (Podsakoff *et al.*, 2003). No single factor emerged as dominant during exploratory factor analysis, thereby indicating that common method bias was not a major concern. Next, a confirmatory factor analysis was conducted using SEM, and latent variables were introduced in the model. Items belonging to all the variables were loaded on this latent factor. The results indicated no significant changes in the model fit indices after the introduction of a latent factor, thereby confirming that common method variance was not a concern with our data (Baron and Kenny, 1986). Also, while gathering responses, we had separated the items of key constructs by introducing filler items not used in the study. This offered psychological separation and further reduced any possibility of common method variance (Engelen *et al.*, 2014).

Findings

Descriptive statistics and correlational analysis are presented in Table I. None of the correlations were more than the acceptable limit of 0.5; hence, multicollinearity was unlikely. Accordingly, we proceeded with the mediation analysis.

To test the three mediations, we followed the procedure laid out by Baron and Kenny (1986). As explained by Anderson *et al.* (2009), mediation is established in three steps. In Step 1, we tested the relationship between the independent variable (i.e. RAC) and the mediating variables (EO, MO and TO). The results of the regression analysis are presented in Table II (Models 2, 4 and 6). The findings revealed a positive significant relationship between AC and the mediators. Thus, we proceeded to Step 2.

In Step 2, the direct effect relationship between AC and firm performance was tested. The results are presented in Model 8 of Table III. The relationship was significant and positive. Finally, all mediating variables were entered in Models 9-11. If the mediators are significant

Table I Descriptive analysis and correlation

Construct	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Firm Size (ln)	2.49	0.74	1								
2. Firm Age (ln)	2.13	1.04	0.22**	1							
3. Market Turbulence	5.91	0.82	−0.24**	−0.12	1						
4. Competitive Intensity	5.72	1.13	−0.12	−0.11	0.22**	1					
5. Potential AC	5.78	0.64	−0.11	−0.12	0.32**	0.09	1				
6. Realized AC	5.52	0.49	−0.08	0.05	0.36**	0.13*	0.41**	1			
7. Entrepreneurial Orientation	5.49	0.63	0.14*	0.08	0.14*	0.12*	0.23**	0.26**	1		
8. Market Orientation	5.58	0.83	0.1	0.02	0.11	0.11	0.15*	0.35**	0.34**	1	
9. Technology Orientation	5.04	1.21	0.13*	0.02	0.04	0.02	0.17**	0.10	0.29**	0.28**	1
10. Firm Performance	4.89	0.86	0.30**	0.09	0.05	−0.15*	0.10	0.12*	0.24**	0.18**	0.34**

Notes: * $p < 0.05$; ** $p < 0.01$; SD – Standard Deviation

Table II Regression analysis – Baron and Kenny (1986) step 1

Variables	*Entrepreneurial orientation*		*Market orientation*		*Technology orientation*	
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Controls						
Firm age	0.09	0.07	0.03	−0.005	−0.003	−0.02
Firm size	0.16*	0.17*	0.09	0.10	0.18**	0.19**
Market Turbulence	0.21**	0.14	0.12	−0.01	0.12	0.06
Competitive Intensity	0.11	0.10	0.12	0.11	0.04	0.03
Predictor variable						
Realized AC		0.19**		0.34***		0.14****
Model R^2	0.08	0.11	0.04	0.13	0.04	0.05
Adj R^2	0.06	0.09	0.02	0.11	0.02	0.03
F	5.10	5.78	2.23	6.97	2.37	2.68

Notes: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$, **** $p < 0.1$

Table III Regression analysis – Baron and Kenny (1986) step 2 and 3

Variables	*Dependent Variable - Firm Performance*				
	Model 7	*Model 8*	*Model 9*	*Model 10*	*Model 11*
Controls					
Firm age	0.03	0.02	0.01	0.02	0.02
Firm size	0.31***	0.31***	0.28***	0.30***	0.26***
Market Turbulence	0.19**	0.14*	0.12	0.14*	0.12
Competitive Intensity	−0.14*	−0.14*	−0.16*	−0.16*	−0.15*
Predictor variable					
Realized AC		0.12	0.09	0.08	0.08
Entrepreneurial Orientation			0.17**		
Market Orientation				0.12	
Technology Orientation					0.30***
Model R^2	0.13	0.14	0.17	0.15	0.23
Adj R^2	0.11	0.12	0.14	0.13	0.21
F	8.56	7.60	7.75	6.97	11.42

Notes: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

predictors of the dependent variable and have a larger standardized coefficient than the independent variable, this signifies mediation. Further, if the independent variable becomes non-significant, this signifies full mediation. Our results revealed that all these conditions as laid out by Baron and Kenny were met by EO and TO, thereby suggesting the mediating

role of EO and TO, but not of MO in AC–firm performance relationship. Hence, two out of the three proposed hypotheses were accepted.

We conducted some other tests to ensure the robustness of our findings. First, instead of using a comprehensive performance scale, we just used sub-dimensions such as financial performance and sales performance as dependent variables. The findings did not change and the mediation models remained unchanged.

Second, we ran regression models with ten different sub-samples of data from our overall sample. Echambadi and Hess (2007) recommend that the overall findings must remain the same if multicollinearity is not a concern with the data. We found that regression coefficients remained same in their directionality and significance, thus reaffirming our findings.

Finally, as recommended by Landis and Dunlap (2000), we exchanged the independent and dependent variable in the mediation analysis. We found that with performance as the independent variable and realized AC as the dependent variable, the mediation models broke, thus suggesting that reverse causality was not a concern with our hypotheses and the proposed mediation model was robust.

Discussion

This study made an attempt to combine the literature of the small family business and strategic management to arrive at the proposed hypotheses. We argued that absorptive capacity helps firms in developing appropriate strategic orientations, which, in turn, enhance small family firms' performance. In so doing, our study departs from previous work examining direct relationship between AC and the firm performance, and explored the mediating mechanisms in the relationship between AC and small family firm performance. Consistent with our theoretical anticipation, this study adds evidence that AC, through its linkages with strategic orientations, results in improved firm performance. Our findings reveal that small family firms that acquire, assimilate and exploit knowledge toward crafting an entrepreneurial posture and technology augmentation stand a better chance of achieving sustainable competitive advantage.

Implications for the theory

This study makes several theoretical and practical contributions to the existing knowledge about knowledge management in small family firms. There have been calls to give back to the disciplines from which small family business researchers borrow heavily (Zahra and Sharma, 2004). The current study made an attempt to integrate the concepts of strategic management in the context of small family businesses and to contribute back to the literature of strategic management.

The first hypothesis argued that a small family firm benefits from its stock of knowledge, when it is able to use that knowledge to create an entrepreneurial orientation for itself. Findings affirmed this hypothesis and revealed that firms that translate their external and internal knowledge inputs into useful products and services exhibit superior performance (Bertrand and Mol, 2013). While small family firms are indeed an outcome of the entrepreneurial behavior of the founders, firms nonetheless need to enhance their entrepreneurial orientation to sustain their growth (Shane, 2000). As succinctly described by Escribano *et al.* (2009, p. 98), "the drivers of absorptive capacity are highly correlated with the inputs from the innovation process as well as a firm's innovation ability". Accordingly, when small family firms make an effort to increase their absorptive capacity by acquiring, assimilating, transforming and exploiting new knowledge into their existing systems, their ability to proactively introduce new products, processes or management innovations increases (Ali and Park, 2016; Carneiro, 2000).

The second hypothesis proposed the mediating role of technology orientation in the AC–performance relationship. Our findings supported this hypothesis. Firms that are equipped to exploit their knowledge appropriately, tend to be more technologically updated, which enables them to exhibit better performance as compared to their competitors. AC, thus, contributes "to generate comprehensive and accessible sources of high-quality scientific and technological information" (Escribano *et al.*, 2009, p. 98). Absorptive capacity helps firms to develop close ties with the relevant scientific community and build complementarities between external and internal knowledge (Escribano *et al.*, 2009). As competitive advantages arising from existing technologies and innovations tend to erode quickly in competitive business landscapes, firms that quickly generate new technological capabilities from their existing knowledge tend to survive and grow (Lane and Lubatkin, 1998).

The third hypothesis argues that small family firms stand to benefit when they use their absorptive capacity to facilitate the creation of a market orientation, which helps firms in creating unique value for customers and, in turn, in exhibiting better performance. However, the findings did not support this mediation. One possible explanation for this could be the reverse causality of this relationship. As pointed out by Debrulle *et al.* (2014), "start-ups frequently have to rely on market intelligence stemming from direct contact with their customers and/or organizational networks to obtain external information". When small family firms interact with their customers and actively seek out information regarding their competitors, their AC might be enhanced (Lane and Lubatkin, 1998). Another explanation could be related to the benefits of market orientation for firm performance. Researchers have argued that becoming extremely responsive to customer and market needs might make it difficult for small family firms to create radically new products and services, which may hamper firm performance (Lichtenthaler, 2016).

Implications for small family firms

As argued by several researchers in the family business literature (Chirico and Salvato, 2008), an understanding of knowledge capabilities can offer deep insights into why some family firms perform better over others. Howsoever small the family firm is, it needs to pay attention to knowledge creation, assimilation and exploitation. Our findings are in line with the existing recommendations from Flor and Oltra (2013) – "recognition of the importance of both types of AC constitutes a first step for managers to better address the internal processes underlying the external knowledge acquisition, assimilation, transformation and exploitation". The newly acquired knowledge can be clubbed with the existing knowledge to create new products and services, take calculated risks and act proactively in the turbulent market-space (Batra *et al.*, 2017). Technological changes bring new opportunities with them, but not all firms and entrepreneurs benefit from the same owing to knowledge limitations (Shane, 2000). Further, opportunity exploitation happens with the recognition of already existing knowledge in the organization rather than with the search for new knowledge at that point in time (Kirzner, 1997; Shane, 2000; De Gooijer, 2000). Those small family firms that invest their time and resources in understanding knowledge specialization make the best use of technological changes presented by the environment, and, in turn, offer relevant products and services to their customers. Also, firms should not view the process of acquisition, assimilation, transformation and exploitation of knowledge as cumulative, but as sequential and complementary (Ali and Park, 2016). Finally, large organizations do not always commercialize all ideas and new knowledge generated through their research and development efforts (Qian and Acs, 2013). Those small family businesses which exhibit high AC stand to utilize and transform those spillovers to create new products and services useful for their customers.

Implications for emerging economies

A large quantum of research on firm performance is based on large organizations of the western world, thereby leaving a void in the literature. Family firms, especially those belonging to emerging economies such as India, face resource constraints and operate in informal and uncertain institutional environments. To understand the nuances of small and family businesses in contexts such as India, it is important to test management theories in such contexts (Chrisman *et al.*, 2005). It has been argued that research on family firms can be extended by "focusing on the underlying routines, activities and processes that create performance differences in family firms" (Spriggs *et al.*, 2013, p. 32). This study has taken a step forward in this direction by empirically validating that appropriate strategic postures facilitate the use of knowledge in family firms toward achieving superior performance.

Limitations and future research

While interpreting the findings of this study, some caveats should be considered. First, all data are cross-sectional, subjectively measured and collected from a single respondent. However, as objective data are hardly available for small family firms in emerging economies, and the founders are unwilling to share financial data in such economies (Wang and Ang, 2004), subjective data are the best possible alternative. Also, we undertook several rigorous tests to ensure that common method bias was not a concern with our data. We also added filler items in the questionnaire to create a psychological distance among the variables of interest in this study. Second, establishing causality with a cross-sectional research design is not feasible (Debrulle *et al.*, 2014). Longitudinal replication of this study could result in more robust findings. Another limitation is regarding the sample used in this study. We only studied small family firms operating in the service sector. Firms of different sizes operating in other industries need to be studied before the findings can be generalized.

The current research can be extended in multiple directions, offering avenues for further research in the areas of strategic management as well as family business. First, as pointed out by Chirico and Salvato (2008), the implications of dynamic capabilities such as AC may be completely different in different environmental settings. The hypotheses in this study have been theoretically derived in the context of small family firms operating in a dynamic and rapidly changing business environment of an emerging economy. But cross-cultural differences might lead to different mechanisms in different settings, necessitating further enquiry. Second, while we studied the role of organizational characteristics in enhancing the implications of AC, there is a need to understand individual and entrepreneur-related implications. How entrepreneurs perceive and exploit technological and market opportunities is contingent on their own personal knowledge and experiences (Shane, 2000). Future research should try to bring in those elements. Third, while we studied the mediating role of various strategic orientations in the AC-performance relationship, it has been argued that there are other mechanisms that translate knowledge acquisition and exploitation into enhanced performance. For example, Ali and Park (2016) argued that organizational culture might potentially impact this relationship. Finally, another area that merits future research is regarding the contingencies that impact the outcomes of AC in family firms. Age, size, industry characteristics and various other firm-level variables may impact the relationship between the firm's AC and its strategic orientations, requiring further enquiry.

Conclusion

The specific purpose of this study was to explore the mechanisms through which AC translates into superior performance for small family firms. Family firms offer a unique context for understanding the linkages proposed in this study. Entrepreneurs running

family firms are invariably attached to the well-being of their establishment and are committed to the long-run survival and reputation of their firms (De Massis *et al.*, 2012a, 2012b). Accordingly, it becomes imperative for researchers to understand how family firms acquire and manage knowledge, both within the organization including inter-generational transfers, as well as external knowledge originating from environmental changes. Also, as small family firms often lack adequate resources (Batra *et al.*, 2015), it is even more crucial for them as compared to large firms to build a strong AC, i.e. effectively acquire, assimilate and use knowledge to exploit surrounding opportunities (Gray, 2006). However, little is known so far about the mechanisms through which such firms make use of their AC for enhanced performance. This study tried to address this gap by theoretically arguing that a small family firm's strategic orientations translate into the performance benefits of its AC. We proposed that firms may not benefit from the knowledge they acquire or assimilate as that knowledge may decay or time (Lichtenthaler, 2016). Rather, the real benefits of knowledge acquisition accrue when firms use it to inhabit relevant strategic orientations from such knowledge.

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