
**Technology Role in Bundling and Configuration Resources in New
Ventures**

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Abstract: In this research we tried to decipher how one bundle of resource can be leveraged to acquire another in a given surroundings' technology. We examined the conceptual model on the performance of 812 firms established in a same year through surveys. The multi-group structural equation modeling (SEM) reports that firm performance in the private sector predicts much more by organizational resources than individual resources. Results demonstrate that the impact of financial resource on performance increase from high-tech to service and medium-tech firms. However, financial resources are not a direct predictor for performance. In high-tech firms, it could pump performance through organizational resources, whereas in medium-tech firms, it elevates performance through marketing capabilities.

Keywords: *Resource Configuration, Technology, Performance, New venture.*

Introduction

Success in firms do not stand alone; rather, it generally appertains to accompany changes in the firm's environment for its own performance. These external changes in the firm technology ecosystem, which require innovation on the part of other firms, embed the focal firm within an ecosystem of interdependent innovations(Adner & Kapoor, 2010). For instance, Apple/Samsung did timeless investment in new generation of smartphones. Apple faces serious challenges in designing and manufacturing the core component of the smartphones. Beyond this internal difficulties, Apple's suppliers are confronted with significant innovation challenges to deliver components that meet Apple's requirements, while others in different sectors will not need to innovate at this level. In order to be used productively and high quality after sales services by Apple, however, a number of other firms in the ecosystem, outside of Apple's direct supply chain, confront additional innovation problems as well. The software developers such as game or social networks need to invest and develop new features to save their competitive advantage. Apple's innovation ecosystem thus comprises not only Apple as the core innovator, but also its upstream suppliers, and its downstream buyers and complementors as well as all companies that are working in this ecosystem.

The key point is that it is not sufficient to consider whether and how Apple will resolve its internal innovation difficulties; in order for the iPhone offer to create value, all of the other ecosystem partners need to resolve their own innovation challenges as well with similar

bundling and configuration of the resource. It's not similar to the way the service sector firms configure their own resource. Furthermore, the way high-tech firms like Apple configure the resources is quite different with the way ArcelorMittal as a steel giant bundle and leverage the resources. The firm performance often depends on the other firms' scramble in its ecosystem. The effects of external innovation challenges depend on the technology, the magnitude as well as the location in the ecosystem relative to the focal firm(Adner & Kapoor, 2010). Looking to the firm performance without its technology ecosystem is like experiencing a large elephant on a dark room, or feeling a large object while being blindfolded. Without attention to the technology ecosystem then describe what it is researchers have experienced. the elephant is a metaphor for firms, and the various blind men-or dark room- represent our results as well as recipes that disagree on something no one has fully experienced.

The resource of competitive advantage is not only resource but also the birthplace of the structuring resource. Thus, new enterprise strategies and resource structuring decisions are more valuable than resources possessing(Brush, Greene, Hart, & Haller, 2001). Entrepreneurial ventures that are innovative and growth-oriented require different resource leveraging from slow-growth small-niche firms with low technology(Covin, Slevin, & Covin, 1990). Firm's Technological level determines knowledge needs. Therefore, new high-tech firm due to technology life cycle have a greater need to update knowledge and learning from outside. Although previous research(Brush et al., 2001; Henderson & Clark, 1990; Ward, Bickford, & Leong, 1996; Wiklund & Shepherd, 2005) argue that pattern of strategic decisions has a higher impact on new firm performance than achieving resource in all industry types, their findings do not specify how these firms leverage the resource for a superior performance. Hence, it seems a useful exercise to conduct a study on paths' contributing to success of medium-tech manufacturing, high-tech manufacturing and service sector firms bundling and leveraging resource. Thus, the purpose of this study is to determine the extent to "What configurations do get the firm to superior performance in High-Tech, Medium-Tech and Service Sector?" The concept of configuration fit suggests that firms must match the demands of their technology level with their internal resource in order to survive and succeed. A proper fit positively affects performance, while a misfit negatively affects firms' business performance.

Literature Review

Drawing upon the resource-based view and absorptive capacity of the firm, previous research explains how the interplay between firm's resources affects performance(Chitsaz, Liang, & Khoshsoroor, 2017). Entrepreneurs' knowledge as well as social and political network is strongest in predicting new venture performance when financial resources are either low or high. Moreover, individual resources can overcome the liability of newness and impact technology firm performance through development of organizational resources and financial resources. In this paper, we adopted the framework from Chitsaz, et al. (2017) to test whether technology level affect firm performance. In this framework 4 variable including "individual resource", "organizational resource", "marketing capabilities" and "financial resource" predict new venture performance.

Ruiz-Mercader, Merono-Cerdan, and Sabater-Sánchez (2006) believe that technology level as well as learning in small businesses are related to sector knowledge-intensity. Others believe sector knowledge-intensity has an impact on various managerial aspects including performance(Desnoyers & Lirette, 1999; Knudsen, Levinthal, & Winter, 2017; Levinthal, 2017). Covin et al. (1990) argue that strategic posture varies among new ventures in different industry life cycle stages. New ventures in emerging industries similar to high-tech industries have the most entrepreneurial strategic postures. Other researchers believe that industries with a greater need for new technology-based entrepreneurship grow disproportionately faster

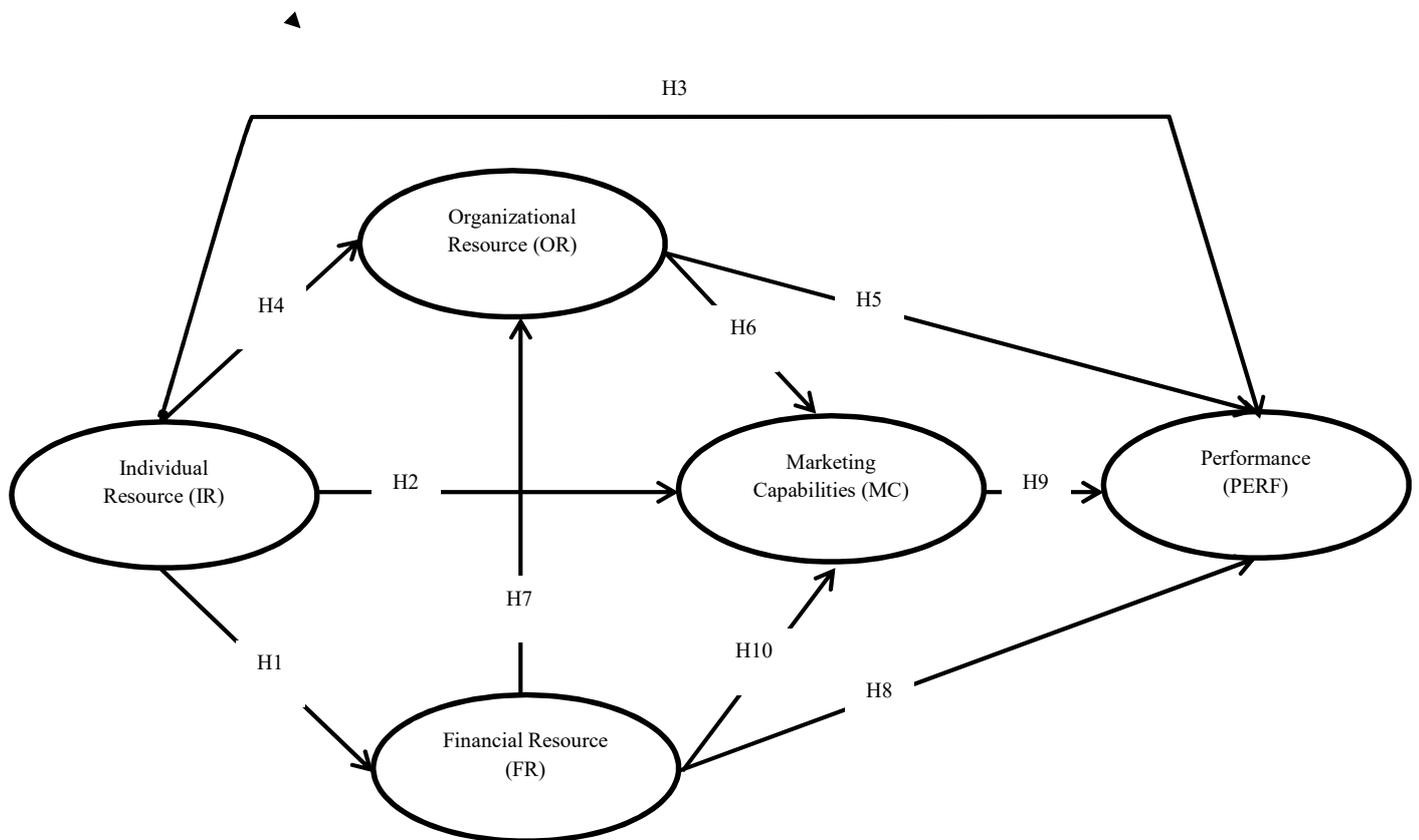
than other industries. They argue that the knowledge spillover effects fostering the growth of new technology-based firms contingent on certain industry level of technology(Delmar, Wennberg, & Hellerstedt, 2011). On the other hand, theory of knowledge spillover entrepreneurship express that a context with more knowledge will generate more entrepreneurial opportunities. By contrast, a context with less knowledge will generate fewer entrepreneurial opportunities. According Audretsch and Keilbach (2007) empirical evidence, entrepreneurial opportunities are not exogenous but rather systematically created by investments in knowledge by incumbent organizations and it make unique resource leverage based on technology level. Prajogo, McDermott, and Jayaram (2014) argue that technological intensity is a moderator of firm's capabilities in delivering performance why the effectiveness of firms' strategies in producing competitive advantage is influenced by the organizational context, including the business environment(Khoshsoroor, Liang, Salami, & Chitsaz, 2019). Hence, we consider, technology uses and its level in the firm are related to sector knowledge-intensity and therefor affect to the firm performance by changing new firm's resource structuring.

As a result, we hypothesis that:

H: The relationships among individual resource, organizational resource, marketing capabilities, financial resource and performance in a new firm moderate with its technology level.

Considering previous sections discussions, the following conceptual model proposed for operational test:

Figure 1: A Conceptual Framework for Studying the Internal Factors Affecting New Firm's Performance



Methodology

To evaluate the proposed theoretical model, we collected dataset from 628 firms established in 2014-2015 in Insurance's Social Security Organization data bank. In this section, we describe the empirical setting and data collection protocols.

Our empirical analysis draws on the latest available high-, medium- and low-tech classification proposed by Legler and Frietsch (2006) using sectorial R&D expenditure as benchmarks.

Data Sources

From the Insurance's Social Security Organization database, we identified 62000 independent new ventures created during at the same year by a founder or a team of founders. The firms specialized by industry and finance on high-tech-manufacturing such as computer software, IT, pharmaceutical, medical equipment, bio-technology, telecom and data communication, industrial products and machinery (CNC, Sensor, process control, machine vision, instrumentation, pollution and recycling related). Medium-tech-manufacturing firms categorized as food industries; textile and fabric; vehicle and propulsion; machinery and equipment; cellulose, mineralization and metal. Service sector was including retails, hotels, real estate, education, health, social work, transport, computer services, recreation, media, and electricity-gas-water supply. We collected data in two steps. First, with a questionnaire during the fourth year of the new venture creation, we collected data on financial resources, individual resource, organizational resource and marketing capabilities as independent variables; and customer performance and financial performance dependent variables, based on the applied indexes and definitions and studied theories.

This questionnaire also has some common questions such as the entrepreneur's education, gender, year of establishment, company's name, company registration number, business plan design at the time of establishment, number of employees and entrepreneur's opinions.

Second, this research data on financial information gathered according firms reports to the Iranian Tax Organization.

The data only included the ventures which are less than 42 months old (Levie & Autio, 2008). Therefore, the population of the study was those firms which established in 2008-2009, in Insurance's Social Security Organization data bank.

The empirical data presented in this study include complete data of 62000 new ventures with less than 42 months old (out of the original sample of 1925 new ventures, a 30% yield rate). The final sample included 628 new ventures.

Potential Bias Tests

To examine representativeness of the participating firms, we performed a MANOVA to compare participating firms with non-participating firm on founding team size, pre-business planning. The results were not significant at the 89% confident level for all variables; there were no significant differences between the participants. Therefore, we concluded that the final sample of 628 new firms has representative validity.

Study Measures

Individual Resource (IR) measured using a 3-dimension "Employees and Entrepreneurs Knowledge (EEK)", "Employees and Entrepreneurs Social Network (EESN)" and "Path Dependency (PD)" in 5-point scale. Employees and entrepreneurs knowledge adopted from (Wennberg, 2009). This measure assesses the relevant and irrelevant education level of employees and managers in comparison to the industry average. Employees and Entrepreneurs Social Network adopted from (Raz & Gloor, 2007). This measure assesses the strength of relation, cooperation, confidence and intra-organizational networks of employees and entrepreneur. Path Dependency adopted from (Tu, Vonderembse, Ragu-Nathan, & Sharkey, 2006). This measure assesses the progress history of the entrepreneur and employees and their relevant and unrelated experiences.

Organizational Resources (OR) measured using a 3-item knowledge Scanning (KS), flexible structure (FS), supporting creativity and innovativeness culture (Pandey & Sharma, 2009) newly developed for this study. Knowledge Scanning adopted from (Tu et al., 2006). This measure assesses firm's efforts to investigate and interpretation of the political, economic, social and technological events and trends with using suppliers, competitors, consumers, partners, educational and research centers. Flexible structure adopted from (Carter, Stearns, Reynolds, & Miller, 2006). This measure assesses the method of organizing and productivity according firm's boundaries, choices, flow and tools. Supporting creativity and innovativeness culture adopted from (Pandey & Sharma, 2009). This measure assesses open, supportive atmosphere safe-failing and organizational learning.

Marketing Capability (MC) measured using 6-item scale adopted from (Weerawardena, 2003). It assesses whether the new venture had a strong customer relationship (CR); distinguished product (DP), brand reputation (BR), promotion activity (PA), marketing research (MR) and distribution network (DN).

Financial Resource (FR) is a 5-item scale financing and cash flow preparing (FCP), cash flow planning (CFP), controlling and reporting (COR), portfolio management (PM) and investor relations (IR) newly developed for this study. "Financing and cash flow preparing" and "cash flow planning" adopted from (L. Sanz & Lessiza, 2013); controlling and reporting adopted from (Deslauriers, 2011). For portfolio management, we used (Lutz, Bender, Achleitner, & Kaserer, 2013) indicators. Investor relations we adopted from (L. J. Sanz & Lazzaroni, 2009). Performance (PERF) measured using a 3-item scale adopted from G. Hooley, Fahy, Greenley, Beracs, & Boris, (2003). It does include customer performance (CP), market performance (MP) and financial performance (FP). The scale degree of market performance assesses sales volume and strong market share. Customer performance measure satisfied and loyal customers with three criteria, which are customer retention, customer satisfaction and trust. 'Financial performance' test profit, profit margin, and return of investment, which we collect profit and profit margin from Iranian Tax Organization data bank.

Validity of research tool's context confirmed by five experts with academic qualifications and managerial experience in newly firms' performance. The reliability of the questionnaire was tested by using Cronbach's alpha method. The Cronbach's alpha coefficient was 78% in the first step. Then, the questions, which decreased the reliability of the questionnaires, were eliminated by using factor analysis; (questions about patent registration, 'purchase and sales' in 'knowledge scanning' variable and questions about 'investor relations' and 'portfolio management' from 'financial resource' variable). A second calculation shows 90.4% for Cronbach's alpha coefficient. Considering this research and the necessity of defining the amount of synchronic effect of independent variables on dependent variable, structural equation modeling (SEM) used for hypothesis testing and data analysis.

Results & Discussion

Using the full sample of empirical data from the survey, we analyzed the theoretically derived model. Furthermore, we conducted a multi-group comparison using different sub-samples. We chose the partial least squares (PLS) approach (Chin, 1998) for data analysis as it is advantageous compared to covariance-based approaches when the research model is relatively complex and relationships between indicators and latent variables should be modeled in different modes (Chin and Newsted 1999). We examine the hypothesized structural relations among the constructs in Figure 1 with a full-structure model using the maximum likelihood estimation procedure in Lisrel 8.80. The method is that at first we evaluated null-hypothesis by assuming all path coefficients equality in high-tech, medium-tech and service sector ($\chi^2 = 4.2$; $df=2$; $\chi^2/df=1.6$; $GFI=0.92$; $CFI=0.96$; $NFI=0.95$; $RMSEA=0.015$). The models indices in three groups suggest that the full model fits the data

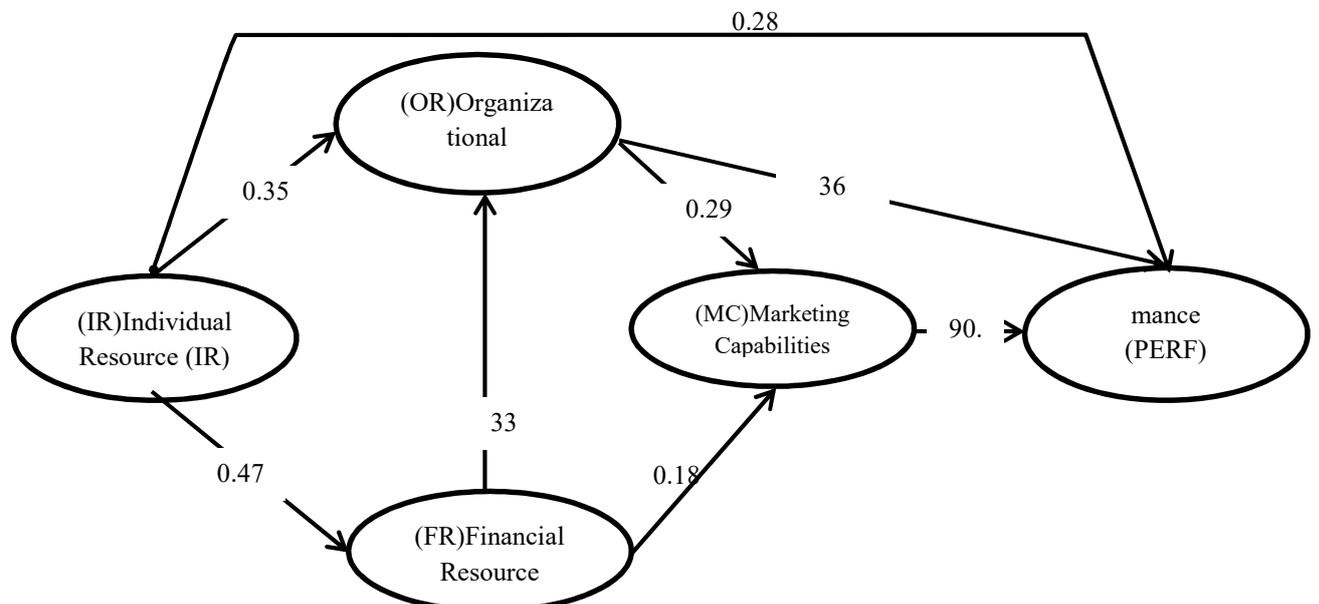
well. Considering the original model's indices, it could be said that the model has a relatively good fit with data. However, given the error observed, it needs to be modified. Next by rejecting model similarity we examine alternative-hypothesis in the groups by releasing the coefficients estimated and presume that every group has its own path. Because the competing model obtained better coefficients fit, it can be concluded that new firm's resources configuration influenced by the technology level.

Table 1: Covariance Matrix for High-Tech/Medium-Tech/ Service Sector Firms

	Individual Resource(IR)			Organizational Resource(OR)			Financial Resource(FR)			Marketing Capabilities(MC)			Performance(PERF)		
	High	Med	Serv	High	Med	Serv	High	Med	Serv	High	Med	Serv	High	Med	Serv
Individual Resource(IR)	0.93	0.86	0.76												
Organizational Resource(OR)	0.47	0.58	0.41	0.53	0.70	0.69									
Financial Resource(FR)	0.41	0.44	0.43	0.36	0.43	0.37	0.61	0.60	0.80						
Marketing Capabilities(MC)	0.27	0.28	0.22	0.24	0.37	0.36	0.23	0.31	0.19	0.48	0.71	0.57			
Performance(PERF)	0.48	0.40	0.32	0.37	0.49	0.54	0.29	0.31	0.29	0.26	0.40	0.41	0.59	0.79	0.88

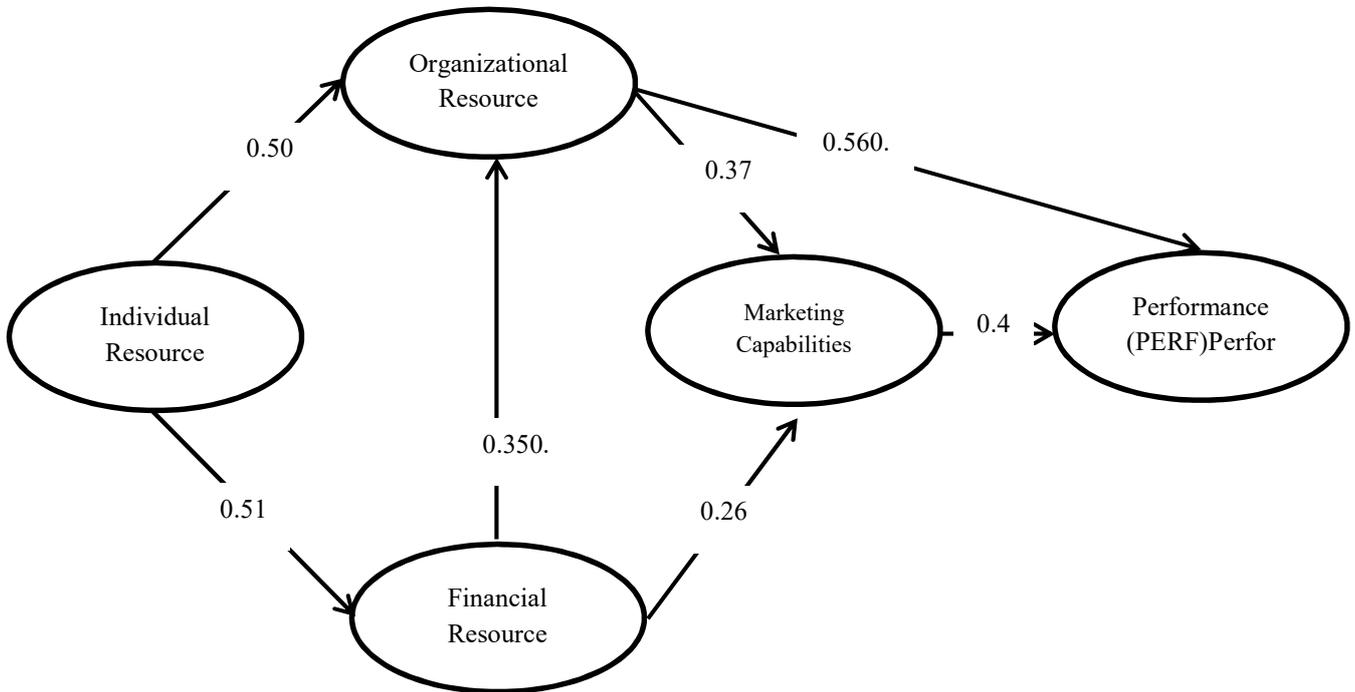
Considering the final model indexes, it could be said that the model has a good fit with data and by eliminating the relation between 'individual resource'-'marketing capability' and 'financial resource'-'performance' in all groups and eliminating 'individual resource' to 'performance' in medium-tech and services groups, not only the error rate (RMSEA and SRMR) decreases considerably, the model fit (GFI and AGFI) increases as well. Furthermore, all hypothesized relationships, with one exception, were statistically significant ($p < .01$). The results of the final structural model are shown in Figure 2,3,4. Table 2 presents standardized path coefficient estimates and goodness-of-fit indices.

Figure 2: Results of Full Structural Equation Model for High-Tech Firms



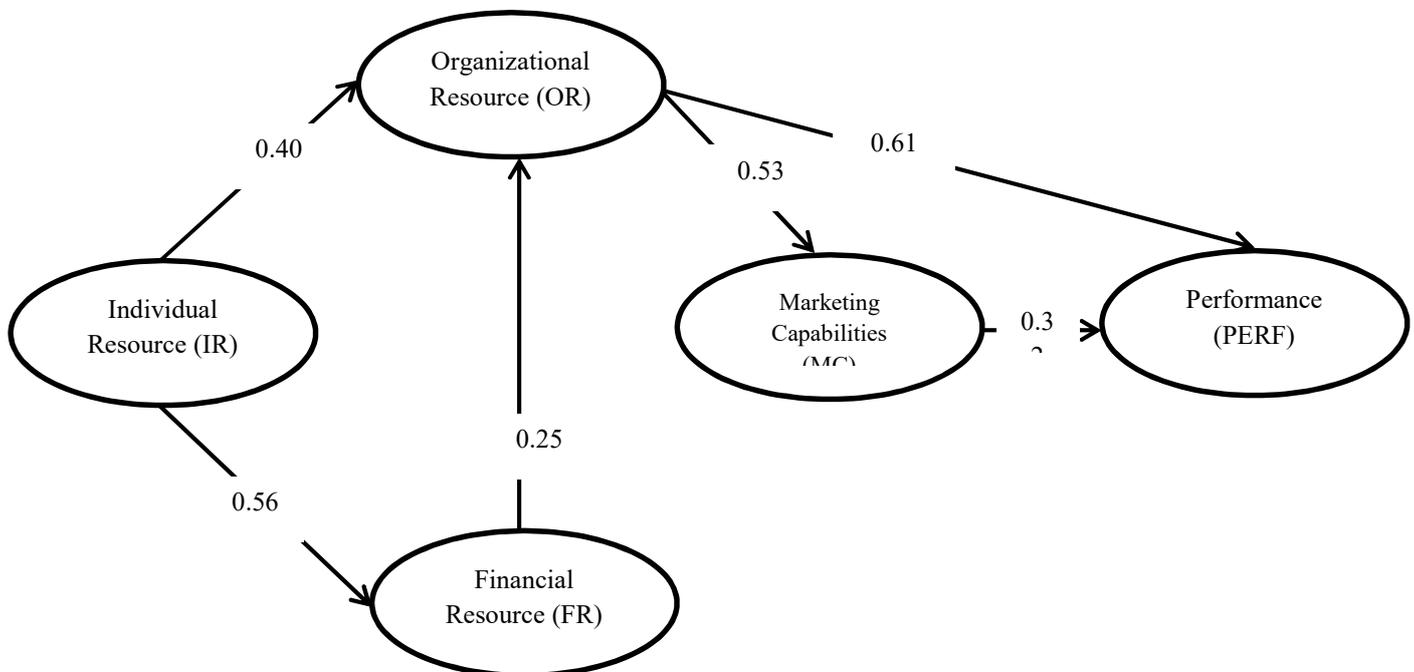
Chi-Square=0.74, df=2, P-value=0.67927, RMSEA=0.000

Figure 3: Results of Full Structural Equation Model for Medium-Tech Firms



Chi-Square=1.63, df=3, P-value=0.65203, RMSEA=0.000

Figure 4: Results of Full Structural Equation Model for Service Sector Firms



Chi-Square=0.007, df=4, P-value=1.0000, RMSEA=0.000

Table 2: Full Structural Equation Model Estimates

From	To	Hypot thesis	High-Tech Standardized Coefficient Estimate	Medium-Tech Standardized Coefficient Estimate	Service Sector Standardized Coefficient Estimate
Individual Resource(IR)	Financial Resource(FR)	H ₁	0.47***	0.51***	0.56***
Individual Resource(IR)	Marketing Capabilities(MC)	H ₂	0.11*	0.068*	-0.033*
Individual Resource(IR)	Performance(PERF)	H ₃	0.28***	-0.009*	0.085*
Individual Resource(IR)	Organizational Resource(OR)	H ₄	0.35***	0.50***	0.40***
Organizational Resource(OR)	Performance(PERF)	H ₅	0.36***	0.55***	0.61***
Organizational Resource(OR)	Marketing Capabilities(MC)	H ₆	0.29***	0.37***	0.53***
Financial Resource(FR)	Organizational Resource(OR)	H ₇	0.18***	0.35***	0.25***
Financial Resource(FR)	Performance(PERF)	H ₈	-0.013*	0.18**	0.011*
Marketing Capabilities(MC)	Performance(PERF)	H ₉	0.20***	0.49***	0.32***
Financial Resource(FR)	Marketing Capabilities(MC)	H ₁₀	0.19***	0.26***	0.003*
High-Tech	Full Model: Goodness-of-Fit: $\chi^2=0.77$; $df=2$; $\chi^2/df=0.38$; P-Value= 0.67927; GFI=1; CFI=1; NFI=1; RMSEA=0.000				
Medium-Tech	Full Model: Goodness-of-Fit: $\chi^2=1.64$; $df=3$; $\chi^2/df=0.54$; P-Value= 0.65203; GFI=0.99; CFI=1; NFI=1; RMSEA=0.000				
Service Sector	Full Model: Goodness-of-Fit: $\chi^2=0.001$; $df=2$; $\chi^2/df=0.00$; P-Value= 1.000; GFI=0.99; CFI=1; NFI=1; RMSEA=0.000				

Note:

- ***: $p < .01$; **: $p < .05$; *: $p < .10$.

All hypotheses were evaluated using two-tail tests.

In high-tech group results suggest that the individual resource as the most important variable, predicts the status or quality of financial resources (34%), organizational resource (44%) and performance (41%). Additionally, medium-tech model states that the individual resource as the most important variable, predicts the status or quality of financial resources (37%), organizational resource (56%) and performance (25%). Service sector results show that the individual resource as the most important variable, predicts the status or quality of financial resources (30%), organizational resource (32%) and performance (15%). It means that individual resource comprised of firm's 'human capital', 'social network' and 'path dependency' is the most important variable in firm performance prediction.

High-tech model analysis show that organizational resource is predicted by individual resource (35%) and financial resources (33%) which is itself the predictor of performance directly (36%) and indirectly (5.8%) (through marketing capabilities). As well, medium-tech model analysis show that organizational resource is predicted by individual resource (50%) and financial resources (35%) which is itself the predictor of performance directly (56%) and indirectly (18%) (through marketing capabilities) but in service sector organizational resource is predicted by individual resource (40%) and financial resources (25%) which is itself the predictor of performance directly (61%) and indirectly (16%) (through marketing capabilities)

Marketing capabilities has also a positive effect on new firms' performance; in high-tech group its effect is equal to 20% at medium-tech the effect increase to 49% whereas in service sector is about 32%. However, the effects of individual resource on marketing capabilities have not been proved. Moreover, results didn't verify the positive effect of financial resource on new firm performance in all group types. Meanwhile, according data and analysis the path between individual resource and performance didn't confirmed in medium-tech and service sector. In addition, results didn't suggest any path between financial resource and marketing capabilities in service group.

According table 2, consistent with H1 and H4, 'financial resource' and 'organizational resource' and are found to be positively related to the 'individual resource' ($p < 0.01$). Therefore, H1 and H4 are supported in all groups.

In all groups, hypothesis H5 and H6 predict that 'organizational resource' is positively related to the 'marketing capabilities' and 'performance'. The results provide supports for H5 and H6 ($p < 0.01$). As predicted by H7, an increase in 'financial resource' leads to an increase in 'organizational resource' ($p < 0.01$), supporting H7 in all groups.

Hypotheses H9 predicts that 'marketing capabilities' positively affects the 'performance', the results provide support for this hypotheses ($p < 0.01$).

Counter to hypothesis H2, 'individual resource' is not shown to provide a significant positive effect on 'marketing capabilities' ($p > .10$) in all groups. Also, in contrast H8 in all groups, 'financial resource' doesn't have positive relation with 'performance'. In sum, seven of our nine hypotheses are supported with only H2 and H8 not supported by the results.

The analysis of the research model of the surveyed firms shows no significant path between individual resource and performance in medium-tech firms and service sector lead to reject H2 in medium tech and service sector.

Finally, results illustrate that financial resources don't have any significant path to marketing capabilities at service sector which rejecting H10 at service sector.

Important Resource for New Firm's Performance

The entrepreneurship literatures have not answered this research questions relating that which resource is most important for new firm's performance in deferent level of technology? This study provides answers to all this questions. Referencing the standardized path coefficient estimates of Figure 2,3,4 and Table 2, we notice that 'individual resource', 'organizational resource', 'financial resource' and 'marketing capabilities' differentially affect a new firm's performance. On the effects of the performance, we notice that 'individual resource' has the largest standard coefficient estimate in high-tech firms ($\beta = 0.41$) while 'organizational resource' has the largest standard coefficient estimate in medium-tech firms ($\beta = 0.56$) and service sector firms ($\beta = 0.61$). This result indicates that 'individual resource' is the most important capability for achieving a high quality performance in high-tech firms and 'organization resource' is the vital and considerable capability for achieving a high performance in medium-tech' and service sector' firms.

Turning our attention to the effects of the positional advantages on the new firm performance (PERF), we notice that individual resource (IR), not organizational resource (OR), has the largest standard coefficient estimate ($\beta = 0.41$) in high-tech firm. This tells us that a high individual resource is 16% more important for the success of a high-tech firm than organizational resource. We also find that individual resource is 2.73 times more important than marketing capabilities for new firm performance in high-tech firms. Likewise, we observe that organizational resource (OR), not individual resource (IR), has the largest standard coefficient estimate in both medium-tech ($\beta = 0.56$) and service sector's firm ($\beta = 0.61$). This demonstrates that a high organizational resource is 20% more important for the success of a medium-tech firm. As the same, organizational resource is 25% more important than individual resource in service sector. We also find that organization resource is 2 times in medium-tech and 1.9 times in service sector more important than marketing capabilities.

This data defines a lack of a significant relationship between individual resource and marketing capabilities in all groups. Also, data analyses cannot admit a performance prediction with financial resource.

Table 3: Results of Lisrel 8.80 Maximum Likelihood Estimation: Total Effects of Determinant Factors on New Firm Performance

Factor	Performance (PERF)		
	High-Tech	Medium-Tech	Service Sector
Individual Resource(IR)	0.41***	0.25***	0.15***
Organizational Resource(OR)	0.36***	0.56***	0.61***
Marketing Capabilities(MC)	0.20***	0.27***	0.32***
R ²	0.53***	0.49***	0.53***
High-Tech	PERF = 0.36*OR + 0.20*MC + 0.28*IR, Errorvar.= 0.27 , R ² = 0.53		
	(0.11)	(0.091)	(0.077)
	(0.041)		
	3.29	2.30	3.64
			6.71
Medium-Tech	PERF = 0.56*OR + 0.27*MC, Errorvar.= 0.41 , R ² = 0.49		
	(0.079)	(0.078)	(0.051)
	7.14	3.43	8.00
Service Sector	PERF = 0.61*OR + 0.32*MC, Errorvar.= 0.42 , R ² = 0.53		
	(0.11)	(0.12)	(0.066)
	5.74	2.76	6.32

Note:

***: p<.01

Table 3 provides the total effects (i.e., direct and indirect effects) of each construct on new firm performance in each group. The empirical results in Table 3 reveal differences in the relative importance of the capabilities and resource on new firm performance. Based on the standardized total effect estimates of Table 3, in high-tech group, the order of importance of these factors in descending order is as follows: individual resource (0.41), Organization resource (0.36), marketing capabilities (0.20) while financial resource are found to have no significant effects on new firm performance. In medium-tech firms the ranking of resource is organizational resource (0.56), marketing capabilities (0.27) and individual resource (0.25). In comparison, service sector firms need to organizational resource (0.61) at the highest important level and in subsequent level need to marketing capabilities (0.32) and individual resources (0.15).

Unquestionably, this result suggests that individual resource is the most important factor in the at new high-tech ventures performance whether organizational resource has the most effect on new firm performance in both medium-tech and service sector.

Discussion

Large parts of literature (Prajogo et al., 2014; Ward et al., 1996) demonstrate that technological intensity influences competitive capabilities in predicting business performance. The research described in this paper examined how technological intensity affects firm resources' configuration to get success. These resource decisions follow the entrepreneurs' judgments about which resources are more or less important, and are based on their expectations about the future of the firm, or the perceived criticality of the resources in the organizing process. The choice of an entrepreneur to emphasize one resource over another is usually a cost-time trade off. Frequently, the personal cost is sweat equity, and the opportunity cost of the time investment means another resource is not developed or pursued (Brush et al., 2001).

This research disagrees with some of the earlier researchers (Kakati, 2003) which tend to discount the role of the entrepreneur in favor of other variables in the success of a new venture in high-tech firms and agree with them in medium-tech and service sector firms. Similar to other researchers (Brush et al., 2001; Ward et al., 1996; Wright, Hmieleski, Siegel, & Ensley, 2007), this research suggests that individual entrepreneurs are key contributors to the firm performance in high-tech firms while in contrast organizational resource has a higher effect than individual resource in medium-tech and service sector. Hence, social capital;

experience and knowledge of entrepreneur and employees play a critical role in the success of a new venture. As Kaul (2012) argued industry context can influence the degree to which incumbent firms pursue technological entrepreneurship while this result demonstrate that the technology intensity can affect to resource leveraging to getting success. In contrast with Brush et al. (2001), results indicate that successful ventures in different technology level appear to follow different resource leveraging patterns and development approach whereas approximately in the same technology level have a similar resource configuration , i.e. venture performance is superior when resource configuration with technology intensity are used in concert.

Collins and Smith (2006) demonstrate that commitment-based human resource practices were positively related to the organizational social climates of trust, cooperation, and shared codes and language. In turn, these measures of a firm's social climate were related to the firm's capability to exchange and combine knowledge, a relationship that predicted firm revenue from new products and services and firm sales growth.

As a result, marketing capabilities has a higher effect on performance in medium-tech and service sector than high-tech firms. This observation is intuitively plausible why high-tech industries can charge higher price premium for their unique and customized offerings as the prospective consumers may not be as cognizant of what constitutes a reasonable product price and therefore, price may not be as important purchase criteria. From similar argument, brand reputation and promotion activity have a lower important in high-tech firms than medium-tech and service firms. In medium-tech and service sector consumers are frequently familiar with the product or services offerings and consequently, often have good sense of what the product 'should' cost. Also, because of higher level of competition they need more marketing capabilities to serve their products and services than high-tech firms. Because entering in these sectors is easier than high-tech sector. Relatively supply side pressure provides consumers the impression that they will be getting a bargain situation and therefore, firm need higher level of marketing capabilities to develop their market and distribute even for unique and customized products.

In Relevance by lower effects of 'organizational resource' than 'individual resource on new firm performance in high-tech firms it can be said that development of new technology or product does not in itself guarantee commercial success for firms operating in the high-tech industries. The presence of diversified skills and capabilities, in which technological expertise is balanced with business skills and capabilities in other areas such as marketing, input-sourcing, and general management, is the key determinant of success in technology-based start-ups. Furthermore, once the product is designed and developed up to a prototype and enjoys some protection, over-emphasis on technological side of the business or R&D efforts to make unique products may not lead to success.

Conclusion

What are the internal factors that affect Technology venture performance in Iranian Technology ventures in different technology level? We conducted a study of 346 Iranian Technology ventures. Our empirical results challenge traditional views within the entrepreneurship literature in several important ways.

In high-tech firms, entrepreneur and employees' social network, knowledge and path-dependencies can predict firm performance, while the commitment of the core team and other employees, their expertise and knowledge can shape the other firm's resource. Those less critical were seen as marketing capabilities, financial resource and organizational resource. Additionally, organizational resource and marketing capabilities have a higher affection to new firm performance than financial resource in high-tech firms.

On the importance of internal resource in high-tech firms as antecedent drivers of advantage, we find that the new firm's financial resource and marketing capabilities are much less, not

more, important sources of advantage in the new firm success than individual resources. For example, our results challenge the traditional view that marketing capabilities and financial resources are the most important capabilities for the execution of a high level performance. Although we confirm that marketing skills do enable new ventures to execute a high performance, we show instead that individual resource is the most important driver for the execution of a high performance in high-tech firms. Therefore, social network, knowledge and path-dependency of entrepreneur and employees, participate in high-tech firms' success concept, and get involved in every stage of firm activities' process contributes more than marketing capabilities to the execution of a high level performance.

On the importance of organizational resource in firm performance, we find that the new venture's marketing capabilities and financial resource are much less, not more, important for the success of new firm than internal knowledge scanning, flexible structure and supporting creativity and innovativeness culture in all of firms and specially in medium-tech and service sector. We show that making a high level performance in all firms' types need continued and persistent knowledge scanning, flexible structure and finally supporting creativity and innovation culture rather than high levels of marketing capabilities and a highly resource financing. These results contradict the dominating view in the entrepreneurship literature that is emphatic on the importance of marketing capabilities and financial resource in the development of a firm performance. They also contradict research work on new firm performance(Morgan, Vorhies, & Mason, 2009) that has claimed the marketing capabilities as a principal determinant of performance. Results advocated organizational resource as the first most important factor predicting new firms' performance in medium-tech and services. Organizational resource effects performance directly and indirectly (through marketing capabilities). Also, this results collaborate new concept of opportunity in relation to new business formation, which believe that opportunities are developed through interaction and co-action and are collectively (rather than unilaterally) enacted, discovered and exploited; contrary to what more traditional entrepreneurship research argues(Ciabuschi, Perna, & Snehota, 2012; Holmlund, 2012).

The findings show that organizational resource depends on individual resource and financial resources. Researchers believe that individual resource is a prerequisite of organizational learning (identification and use of knowledge). It means that group activities and experience as an opportunity resource could be a base for organizational learning(Denrell, 2003). But as figure 2, 3, 4 and table 2 demonstrate, predicting performance by organization resource increase from high-tech industries to medium-tech and services. It can show that in service and medium-tech firms we need more leadership skills to exploit individual resource in organization and pass it to achieving high level of performance.

Considering the effect of financial resources on new firms' performance, the results suggest that financial resources depends on individual resource, because they provide by experience, knowledge and social abilities of entrepreneur and employees. Researchers think that new firms are in need for financial supports beyond access, suggest that managers need slack to increase firm size or innovate, respectively(Daniel, Lohrke, Fornaciari, & Turner, 2004). Although previous studies(Li & Ferreira, 2011) describe financial resources effect on business performance; however they are silent about the way of financial resource affection. Considering the fact that access to financial resources, not directly, but indirectly and through leveraging individual and organizational resource, lead to positive change in performance, it is recommended that in policy makers, instead of allocating large financial resources directly, pave the ground for reinforcing organizations' abilities and structures. This model expands understanding of financial resource role in new firm success. Similarly, we challenge the traditional view that financial resource is one of the important capabilities for firm success when new firms fail because of their lake of legitimacy to attracting financial resource. We

show instead that financial resources are much less, not more, important than individual resource in firm performance that is a resource to fill legitimacy gap for new firm with making connection according knowledge and experience. Similar to Brush et al. (2001) we believe that strong and well-targeted networking along with well-targeted and knowledge in field will better succeed the firm than financial resources.

Using this model, we argue that financial resources do not necessarily directly affect firm performance, but can do so through the attainment of positional advantages in organizational resource. Second, we uncover a model to evaluate new firms. We find that individual resources are more important for new firm performance than high levels of financial resource or marketing capabilities in high-tech firm while in medium-tech and service sector, organizational resource has this important role. Given the lack of legitimacy faced by new ventures in the marketplace, the entrepreneur and employees social network, knowledge and experience can serve as a better source of competitive advantage than high levels of financial resource and marketing capabilities. This is consistent with research that has used information processing theory to show that greater “liability of newness” increases the need for higher “individual resource in the firm development effort(Gupta, Raj, & Wilemon, 1986). We also uncover that the most important enabler of firm performance is ‘individual resource’, ‘organizational resource’, ‘financial resource’ and ‘marketing capabilities’ since there is no extensive model to predict new firms bankruptcy or dissolution and risk modeling(Balcaen & Ooghe, 2006) and financial models were not merely successful in predicting entrepreneurship firms(Aldrich, 1999; Chitsaz, Tajpour, Hosseini, Khorram, & Zorrieh, 2019). Therefore, this research by developing a valid theoretical framework, the present research findings contribute to evaluation of new firms’ dissolution and firms’ survival and performance and help investors to evaluate firms’ risk. The application of the model may enable new firms to identify and assess their capacities and thus to change, modify, amend or to acquire capacity to improve success rates according to their technology level. Whilst the model is based on the Iran environment and experience, Iran is a unique and interesting case because of its development under sanction. Study of entrepreneurship in developing countries makes possible to study phenomena in a small laboratory where procedures have been simplified to review. Iran business environment disconnected from world market and simplified factors because of tough economic sanctions. Accordingly, in this environment many of factors control by sanction. While the most important factor to creating entrepreneurial opportunities is continuing change.

However, we do not suggest that the study represents a complete picture of new venture performance. Neither can we claim that we exhausted every variable that impacts venture performance, in the administration of our questionnaire as we can see error variance of performance. Hence, it may provide a fruitful stream of future research.

Thomas (1978) suggests that classifying service businesses based on the intensity of technology as opposed to degree of human content may be revealing. This may help better understand the nature of strategic opportunities available to the firm and in turn convert that advantage to better performance.

Limitation

Studying this model in a longitudinal research not only makes it possible to observe new firms’ dissolution, but also presents more accurate information on performance.

Further research could evaluate more independent and various variables which was not possible in the present research due to use of previous theories. This means that using semi structured interviews as a methodology helps to enrich the researches.

At present, the linear relations have only been evaluated in resulted models. Therefore, further studies are needed to assess whether this relation is exactly linear and the relations are curved.

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