

# **Examining the Relationship between Firm Resources and Firm Performance: An Insight into the Airline Industry**

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## **Abstract**

Several scholars have pointed to the benefits that can be acquired by the combination of strategic and entrepreneurial activities with the aim of creating wealth and increased performance outcomes (e.g. Ireland et al., 2003; Sirmon et al., 2007; Monsen and Boss, 2009). In this vein, we employ the Resource-Based View (RBV) of the firm and examine whether the balanced implementation of both opportunity and advantage-seeking activities enhances the relationship between a firm's resources and its performance outcomes. Using panel data from the airline industry, our findings reveal important implications for business success and for future research directions.

**Keywords:** Firm resources; performance; airline industry; content analysis.

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## **1. INTRODUCTION**

Seeking the integration and balanced implementation between value-creating (entrepreneurial) and competitive advantage-seeking (strategic) activities (e.g. Ireland et al., 2003; Sirmon et al., 2007; Monsen and Boss, 2009) constitutes a key challenge for several firms in a variety of industry settings.

This work, in particular, aims at investigating the impact of the balanced implementation of opportunity and advantage-seeking activities, also termed as strategic entrepreneurship (Ireland et al., 2003), on the relationship between firm resources and performance, examining whether organizations that indeed implement these two approaches simultaneously outperform those that are either solely strategically or entrepreneurially driven. In attempting to address the above knowledge gap, we examine the impact of this integration on the linkage between firm resources and performance. In order to better comprehend the particular relationship, the focus shifts on the effect of firms' external environment, since environmental factors are considered to exert a strong effect on performance (Spanos and Lioukas, 2001). This is particularly true within the airline industry, since passenger mobility and cargo transportation diminish, causing a parallel revenue decrease for airline firms (Miller and Chen, 1996).

In this vein, the paper draws upon the Resource Based View (RBV) of the firm (e.g. Penrose, 1959; Wernerfelt, 1984), which considers the effect of several internal and external firm resources on competitive advantage creation and performance differentials efforts, followed by the theoretical arguments and the conceptual framework of the current study. The paper is based on a cross-sectional empirical investigation of 30 airline companies (with 10 observations for each, equalling 300 in total) included in Top 100 Passenger Ranking of the Airline Business Magazine. Results are then analyzed based on current knowledge and certain conclusions and implications are generated, while future research directions are identified.

## **2. LITERATURE REVIEW**

### **2.1. ENTREPRENEURIAL AND STRATEGIC ACTIVITIES**

The parallel implementation of strategic and entrepreneurial activities in order to maximize efforts towards wealth creation has increasingly been acknowledged as a priority for all firm

types (Ireland et al., 2003), since it potentially constitutes a reply to the complexity of continuously reorganizing efforts towards competitive advantage creation under uncertain market and industry conditions (Hitt et al., 2001; 2002; Ireland et al., 2003). Although the potential benefits of combining entrepreneurship and strategy have been broadly discussed, research on the combined implementation of these two domains still remains in early stages, whereby insight with regard to this combination remains limited and their application is insufficiently examined (e.g. Hitt et al., 2001; 2002; Ireland et al., 2003). Ultimately, this leads to the need for further examination into ways in which these two, at times opposing activities, can be effectively managed to create value and competitive advantage.

The most comprehensive model of the aforementioned integration to date, also termed strategic entrepreneurship, pertains to that of Ireland, Hitt and Sirmon (2003). Their framework consists of four activities switching between entrepreneurial and strategic orientations and sets of tasks in a linear process, leading to the creation of competitive advantage and wealth according to the authors. The strategic entrepreneurship construct focuses on optimum ways in which opportunity-seeking and advantage-seeking activities can be implemented towards wealth creation (Ireland et al., 2003). Yet, research has not examined what supportive determinants might involve this 'balance' so that they would aid these two different behaviours to be effectively implemented. Entrepreneurial behaviours are oriented towards the exploration of new possibilities, experimentation, and opportunity identification, while strategic behaviours orient a firm towards the further establishment of present advantages and sources of value creation, the effectiveness of firms at wealth creation consequently requires them to adapt an ambidextrous approach (e.g. Atuahene-Gima, 2005; March, 1991; Gibson and Birkinshaw, 2004; Birkinshaw and Gibson, 2004), translated into a balanced implementation between entrepreneurial and strategic activities.

The above discussion demonstrates that it is at the intersection between entrepreneurial and strategic activities where dynamic processes can occur and enable firms to maximize their wealth creation potential (Hitt et al., 2002). As such, the acquirement and effective deployment of firm resources appear critical in the examination of wealth creation initiatives.

Entrepreneurial actions pertain to the identification and exploitation of entrepreneurial opportunities that have not been discovered by rivals (Ireland et al., 2001 & 2003). Strategic actions pertain to the development and reinforcement of existing sources of competitive advantage creation, however also providing the strategic platform for entrepreneurial actions that are oriented towards new potential sources of value (Hitt et al., 2002).

## **2.2 FIRM RESOURCES**

Literature with regard to firm resources emerges from the Resource Based View (RBV) of the firm (e.g. Penrose, 1959; Wernerfelt, 1984; Barney, 1991; Rumelt, 1984), which was later extended by the evolution of the Dynamic Capabilities (Teece et al., 1997). The RBV argues that firm resources contribute to increased firm performance through competitive advantage formation (Ireland et al., 2003). According to the Resource Based View, resources are characterized as those tangible or intangible assets possessed by a firm, enabling it to adapt strategies generating performance differentials (Maijoor & Van Witteloostuijn, 1996). This ability is created by the use of stable routines which constitute the basic components of capabilities (Nelson et al., 1982). Drawing upon definitions of routines and capabilities provided by scholars such as Nelson and Winter (1982), most researchers interpret the term capability as a superior routine or combination of routines (Winter, 2003). Unexploited resources, when combined with managerial skills may lead to opportunities that when appropriately exploited, can lead to competitive advantages and constitute important novel sources of customer value.

Nelson & Winter (1982) are concerned about particular routines followed in companies, arguing that firm behavior, particularly with regard to the exploitation of firm resources, is subject to routines over a period of time. The outcome would be that it is not very likely that firms develop identical routines. There are several resource types a firm possesses, which either individually or combined may lead to different sources of competitive advantage creation. In the following, we attempt to identify and analyze those resource types that are considered as more relevant within the airline industry and for the purposes of the current study.

## **3. HYPOTHESES DEVELOPMENT**

Although some kind of relationship is, therefore, assumed between firm resources and performance, it becomes apparent that the mere possession of firm resources is not necessarily sufficient for value creation (e.g. Barney & Arian, 2001; Priem & Butler, 2001) or firm performance increase. Further examination on the linkage between a firm's resource portfolio and its activities towards increased firm performance over time is required. Although a firm's resource portfolio builds its unique identity, it may also impose limitations with regard to firms' operations, thus, eliminating their strategic direction and potential towards profit realization, in turn leading to increased performance. In the present study, we

concentrate on the role of the combined integration of strategic and entrepreneurial activities in fostering firm efforts towards enhanced firm performance, by aiding firms to take advantage of the full potential of their resource base.

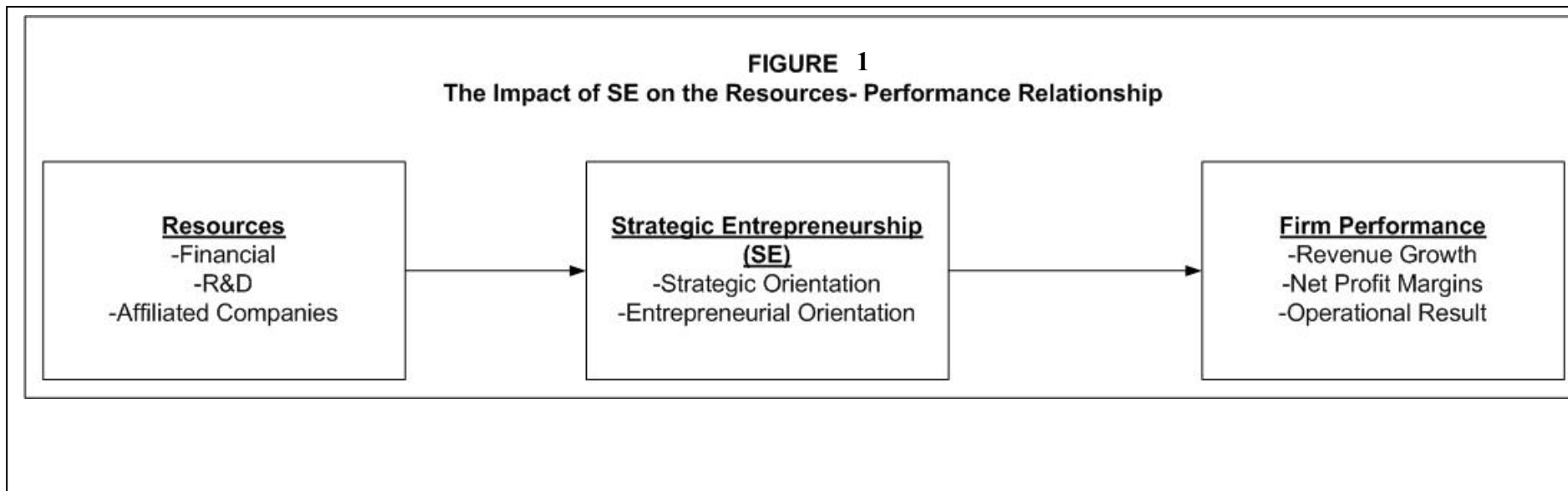
### **3.1 THE CONTRIBUTION OF FIRM RESOURCES**

The adaptation and implementation of a particular strategy type constitutes a key challenge for the majority of organizations. Traditionally, external adoption or orientation has constituted the focus of the strategy process research (Borch et al., 1999). However, limited attention has been paid to internal resources of the firm (Landström & Huse, 1995) and their association to strategy and entrepreneurial orientation (Ireland et al, 2003). This has been further highlighted by contributors such as Sirmon et al. (2007) and Monsen and Boss (2009), who have characterized the firm as a “*black box*”, in that scarce attention has been paid to internal firm resources and conditions that might lead it to increased wealth and firm performance. In today’s competitive environments, firms need to adapt novel strategic approaches within a timely fashion, to successfully compete against rivalry and obtain superior earnings. To this end, non-imitable and non-substitutable resources have been recognized as a key parameter of inter-firm growth differentials (e.g. Barney, 1991; Dosi, Nelson and Winter, 2000; Wernerfelt, 1984).

Ireland et al. (2003) have only pointed to an eliminated number of resource categories, such as social, human, and financial resources as key towards the successful application of entrepreneurial and strategic activities leading to wealth. However, other categories of firm resources exist that have been highlighted in literature as critical towards increased performance and competitive advantage, such as R&D expenditure, new production methods and technologies, which are hard for competitors to adapt or imitate (e.g. Amit & Shoemaker, 1993). Diecrickx and Cool (1989) argue that the core of a firm’s competitive advantage does not necessarily lie in the content of a firm’s strategic approach per se, but mainly in firm resources. An important superior performance indicator in firms, beyond revenue indicators, pertains to the degree to which these firms can innovate and successfully commercialize new products and services (Markman et al., 2004). The airline industry is affected by the above perspective, since airlines’ ability to develop patents to protect their innovations proves an important organizational process (Miller and Chen, 1996).

However, solely possessing inimitable and valuable resources is not sufficient for the above condition to be realized. The RBV requires further elaboration to explain the linkage between the possession of resources and the beneficial impact that such actions can exert on firm performance. To better comprehend this linkage, the effects of a firm's strategically entrepreneurial practices on managing resources and achieving increased firm performance needs to be examined (Bettis and Hitt, 1995), since RBV research is in essence silent about these effects (Sirmon et al., 2007). The above discussion leads to the conceptual framework analyzed in the following, which draws upon the above motivation: examining the combined effect of strategic and entrepreneurial activities on the linkage between firm resources and performance.

**FIGURE 1**  
**The Impact of SE on the Resources- Performance Relationship**



### **3.2 HYPOTHESES**

Our analysis of entrepreneurial activities on the relation between firm resources and firm performance demonstrates that such activities are associated to innovation and search, which aids firms to face uncertainty and transform the identified opportunities from the outer environment into profitable solutions. In this way, firms are in better position to generate new value and increase their performance. Research findings, for instance, reveal that there is a direct, positive linkage between innovativeness and business performance (e.g. Bayus et al., 2003; Damanpour and Evan, 1984), while a firm's innovativeness capacity has repeatedly been associated to increased profits (Li and Atuahene-Gima, 2001). The former analysis provides argumentation that entrepreneurial activities may exert a positive influence on business performance.

Likewise, strategic activities are associated to well-planned actions, which enhance decision-making, facilitate organizations to make accurate resource investment decisions, and translate abstract objectives into specific actions with as certain outcomes as possible. As such, firms mediate the potential effect of failure and speed up their product development processes that will potentially foster growth. Nonetheless, excessive implementation of strategic practices can be criticized for creating extremely standardized and formal conditions that may hamper firms' efforts towards the quick adaptation of change (Delmar & Shane, 2003; DeSimeone et al., 1995). Such an approach, however, might seem insufficient for firms' behaviours in today's volatile and turbulent environments, where firms need to continuously seek new opportunities rather than focusing on a specific position (e.g. Leonard-Barton, 1992), independently of their constraints.

The RBV suggests that resources need to become rare, hard to imitate and non-substitutable in order to constitute sources of competitive advantage (Penrose, 1959; Wernerfelt, 1984; Barney, 1991). This is the outcome of the combined effect of entrepreneurial and strategic activities in that they can transform firm resources into competitive assets against competitors. By solving problems or exploiting new opportunities, companies build positive feedback mechanisms since they become more innovative and effective, therefore attracting more customers, who value the outcome of firms' innovation efforts (Borgatti & Foster, 2003; Uzzi, 1996). This embeddedness helps companies to improve their performance.

Such efforts might appear particularly critical for the airline industry, where the external unforeseen environmental factors, such as terrorism and recession have immense impact on airline revenues. A balanced implementation of entrepreneurial and strategic orientations, thus, aids firms in the particular industry to rapidly respond to this turbulent and risky setting.



Drawing on the above, the simultaneous implementation of strategic and entrepreneurial actions contributes to increased firm performance, based on resources and capabilities, in several ways. Firms can adapt novel technologies and change their resource base, in order to adapt to new environmental opportunities (Karim and Mitchell, 2000). Through the introduction of technologically superior products they can enhance their current market performance through improvements of existing products. Thus, entrepreneurial activities allow firms to be exposed to new knowledge, foster new product development, become more flexible, capture the benefits of uncertainty thus, directly enhancing their performance outcomes. In the meantime, a strategic orientation enables firms to improve their current products, services and business practices, thus reinforcing their value creation to their existing customers. It further enables firms to ameliorate their existing resources, contributing to their short term survival (Lee et al., 2001), while ensuring long term success, thus positively affecting firm performance. Based on the above analysis, we posit the following:

*Hypothesis 1: The relationship between firm resources and firm performance is mediated by the parallel implementation of strategic and entrepreneurial activities.*

In several studies within the airline industry, the impact of environmental factors on firm performance, like economic recession, for instance, have been considered to exert a negative impact on airline firms' performance (Miller and Chen, 1996). For instance, a set of country-specific variables have been considered to control for time varying influences related to carriers' domestic markets, which are likely to influence their performance, like the country's per capita GDP, GDP percent growth (GDP Growth), and population. The negative impact of economic turmoil is presented in several academic studies and in all industry reports of the most known investment analysts/banks (for example see Mergents's Industry Report of the Aviation Industry).

In this study, we assume the negative relationship that environmental factors such that economic recession will impose on firm performance and we hypothesize that the simultaneous interplay between entrepreneurial and strategic actions will decrease this negative effect on the above relationship.

It has frequently been argued within literature that the environmental context (economic recession) significantly affects firms' strategy formation and their resource base construction (e.g. Sirmon et al., 2007). For instance, Miller and Shamsie (1996), argue that "property based resources are more valuable in certain environments than are knowledge based resources". Aragon-Correa and Sharma

(2003) argue that a firm's context influences the potential of its resources in developing natural environment strategies.

The simultaneous implementation of strategic and entrepreneurial actions aids firms to acquire resources and increase their range of viable response to environmental change in the form of opportunities and threats (McGrath & Nerker, 2004). Firms' inability to respond to environmental conditions might allow competitors to exploit emerging opportunities firms. High environmental uncertainty forces firms to leverage their capacity to achieve temporary competitive advantages (Eisenhardt, 1999). Because of environmental impacts, organizations need to continuously redesign their resources and integrate them into new configurations, since firms' competencies might lose their value due to marked and customer needs' changes. Thus, even increases in performance are rarely sustainable in environments like those surrounding the airline industry. However, the parallel implementation of strategic and entrepreneurial activities aids firms to overcome this danger, by constantly screening the environment, creating distinctive competencies for a long time and thus achieve long term performance increases. This parallel implementation also aids firms to integrate previously unrelated matrices of information and knowledge, also referred to as bisociation (Smith and DiGregorio, 2002), which helps the firm to provide rapid solutions under abrupt and emerging environmental conditions. The above discussion leads us to the following Hypothesis.

*Hypothesis 2: The parallel implementation of strategic and entrepreneurial activities diminishes the negative impact of economic recession on performance by mediating their relationship.*

#### **4. METHODOLOGY**

In the following, the statistical methodology followed in the current study is presented. For the purposes of the study, cross-sectional data analysis was employed.

##### **4.1 SAMPLE SELECTION**

Regarding the empirical setting for hypothesis testing, we have considered a number of alternative industries such as the banking industry, the energy trading industry and the automobile industry. The airline industry was finally chosen because of its competitiveness, its well documented diversity of competitive tactics (Chen, Smith & Grimm 1992) and its tendency to be affected by the economic environment (Chen et al., 1996). The industry also includes firms for which there is abundant public information with respect to their decisions and whose business activities focus on a single industry (Miller& Chen, 1996). Prior research suggests a great deal of publicly available information exists on

the firms in the sample (Quasney, 2003). Finally, over 80% of the research in competitive dynamics published in top management journals used the airline industry as the empirical setting.

The research sample comprises 30 major international air carriers which are included in the Top 100 Ranking of Airline Business magazine, providing scheduled passenger service on the Atlantic routes from January 1, 2000 through December 31, 2006. The sample does not include passenger charter carriers, such as Tower Air, or all-cargo carriers, such as FedEx.

Data on firm actions were drawn from the aviation industry newsletter Aviation Daily. Smith, et al. (1992) and Chen (1988) previously validated the use of this source of action information and about 90% of the studies in competitive dynamics in airline industry use this magazine. As Quasney noted: "as an industry newsletter, Aviation Daily provides the most thorough coverage of the U.S. and international airline industries" and "the journal covers essentially all aspects of the industry: the air carriers (large and small; foreign and domestic), airports and airways, acquisitions and mergers, government activity and salient nonmarket activities". Therefore, this magazine is suitable for the data collection for our sample- international air carriers).

## **4.2 RESEARCH METHOD**

The data collection method employed to test the aforementioned hypothesized relationships as presented in Figure 1 among international air carriers is "*structured content analysis*" (Jauch, Osborn & Martin, 1980), which has been used by Chen (1988), Smith, Grimm & Gamon (1992), and Ferrier, Smith & Grimm (1996) and Shaffer, et al. (2000) to study competitive dynamics.

Different approaches, theoretical frameworks, methods, and analytical methodologies have been labeled as content analysis (Denzin & Lincoln, 1994; Miles & Huberman, 1994). Shapiro and Markoff (1997) reviewed six major definitions from various sources in the social sciences (see also Kabanoff, 1995, for complementary perspectives). These scholars proposed a minimal and encompassing definition that we also adopted: "*any methodological measurement applied to text (or other symbolic materials) for social science purposes*" (Shapiro & Markoff, 1997, p. 14). We believe that the Shapiro Markoff definition provides an acceptable conceptual grounding. Content analysis, at its most basic form, is the word frequency as an indicator of cognitive centrality (Huff, 1990) or importance (Abrahamson & Hambrick, 1997). Herein, we use a more fine-grained but qualitative approach by manually reading the concordance lists of our keywords.

## **4.3 MEASURES**

### **4.3.1 DEPENDENT VARIABLES: FIRM PERFORMANCE**

There is agreement in the strategy discipline that performance is a complex phenomenon involving organizational inputs and outputs variously viewed and assessed (e.g., Bhargava, Dubelaar, and Ramaswami, 1994; Chakravarthy, 1986). Thus, by default, performance is a multidimensional construct (e.g. Katsikeas et al., 2004). Performance is therefore perceived as a multidimensional, higher-order construct comprised of three dimensions: financial performance, assessing profitability as a percentage of sales, return on investment, and profit growth, sales performance, measured in terms of sales volume, sales growth, and new product sales and customer performance, pertaining to customer satisfaction and customer retention.

Our intention was to use three different indicators of firm performance (Operations Results, Revenue Growth and Net Margins) but their high correlation with each other lead us to use only the Operations profits/ losses. Thus, firm performance was measured by the Operations profits/ losses as presented in the Top 100 Ranking of the Airline Business magazine.

### **4.3.2 INDEPENDENT VARIABLES**

#### **4.3.2.1 STRATEGIC AND ENTREPRENEURIAL ACTIVITY**

We used categorization of competitive moves as presented by Yu (2007). Consistently with previous research in competitive dynamics (Chen, 1988; Ferrier et al., 1999; Smith et al., 1992; Young et al., 1996), an action is defined as "a specific and detectable competitive move, such as a price cut or new product introduction, initiated by an MNE to defend or improve its relative competitive position in a given country market" (e.g. Norman et al., 2007).

We split actions in two sub- categories: Strategic and entrepreneurial activities. Strategic activities entail a commitment to particular resources that are hard to implement and reverse; a major change in the definition of a business is an example (e.g. Galbraith & Kazanjian, 1986). Entrepreneurial activities, on the other hand, are more oriented towards proactiveness, risk-taking and innovative approaches (e.g. Lumpkin and Dess, 1996) that enhance the process of opportunity identification in the outer environment and create the conditions for the proper exploitation of identified opportunities.

To this end, we divided the number of strategic actions to the number of entrepreneurial actions of the focal firm. If this result is close to 1, the company successfully implements these two sets of activities in parallel. If this number is far less or far greater than 1, this means that the firm implements a strategic orientation or an entrepreneurial orientation respectively. In our sample, there is no airline company which implements a purely entrepreneurial orientation/set of activities. This is attributed to the size of these companies and the regulations which they have to oblige.

#### **4.3.2.2 FIRM RESOURCES**

We measured three types of resources: financial capital, human capital and technological resources, inspired by Ireland et al.'s (2003) work. We measured financial capital by the fleet number, number of affiliated companies and the ownership of proprietary hotels. Data about Fleet number were collected by Airline Business magazines' "Top 100 Ranking of Air- passenger carriers". We use IATA's "World Air Transport Statistics" to find number of affiliated companies and ownership of hotels. We measure human capital by the experience of pilots as presented on IATA's "World Air Transport Statistics". Finally, we measure technological resources by the R&D expenditures and Fleet age. R&D expenses were measured by Datastream's Fundamentals Database and Fleet age was measured by IATA's "World Air- Transport Statistics".

#### **4.3.2.3 ECONOMIC- ENVIRONMENTAL FACTOR**

We measured Economic Recession by a dummy variable which was valued with 0 if there was a growth at GDP in the country where the headquarters of the airline is and with 1 if there was no growth at GDP in the companies' home- country. We collected the data for GDP growth by the Penn World Tables (Real GDP in year 1- Real GDP in year 0).

#### **4.4 DATA ANALYSIS**

Our intention was to use panel data to analyze this longitudinal dataset but, due to inherent constrains, we finally employed more conventional cross-sectional analysis- Ordinary Least Squares, OLS.

##### **4.4.1 PEARSON CORRELATION COEFFICIENTS**

First, correlation analyses were carried out to evaluate the strength of the relationship and collinearity between the predictor variables. Summary statistics and the Pearson correlations for the primary variables of interest are consolidated in Appendix (Table 1).

The strongest relationship between primary variable of interest, Strategic Entrepreneurship was between the variables financial capital and technological resources. Specifically, SE is negatively correlated with all financial capital items (Fleet number  $r = -0.41$ , Number of Affiliated companies  $r = -0.47$  and ownership of hotels  $r = -0.52$ ). In contrast, strategic orientation is highly positively related to financial resources (Fleet number  $r = 0.52$ , Number of Affiliated companies  $r = 0.47$  and ownership of hotels  $r = 0.28$ ). This correlation was expected to emerge, since bigger and wealthier companies are usually prone to strategic integration.

An additional interesting conclusion, however, pertains to the variable Number of affiliated companies is positively correlated with ownership of hotels ( $r = 0.39$ ). This number was also expected because the ownership of hotel suggests the existence of affiliated companies. This correlation is significant important and we considered it in the measurement of financial capital variable. The correlation between resources and performance is not easy to explain. There is some correlation between firm financial resources and performance.

#### **4.4.2 PARALLEL IMPLEMENTATION OF STRATEGIC AND ENTREPRENEURIAL ACTIVITIES AS A MEDIATOR**

Based on Baron and Kenny (1986), we created three models for regression analysis. We first tested the relation between firm resources and performance. A significant important relationship between these two constructs was identified. This relationship proved to have a positive coefficient for technology assets, but a negative coefficient for financial assets. Human capital coefficient was partially significant with a positive coefficient. There was also a significant relationship between resources and Strategic entrepreneurship (Model 4 in Appendix -Table 2).

As demonstrated in Model 3 (Appendix -Table 2), there is a complete mediation of strategic and entrepreneurial activities between financial resources and performance because in Model 3 coefficient of financial assets are non-significant. Firms that possess strong financial resources, demonstrate the capacity to develop slack, which aids them in their opportunity exploitation activities. Yet, in order for this slack to become a mechanism towards competitive advantage, the application of a strategically entrepreneurial approach is completely required as the simultaneous implementation of strategic and entrepreneurial activities in our model completely mediates the relation between financial resources and firm performance.

However, it seems that technological and human capital resources are partially mediated by strategic and entrepreneurial activities. One explanation for this partial mediation might be that these resources inherently contain more value than financial resources, in that they are more complex and as such cannot be acquired with the same simplicity and ease by other firms as can financial resources. Thus, they exert a direct impact on performance and the impact of the simultaneous implementation of strategic and entrepreneurial activities becomes less significant. This means that Hypothesis 1 is partially supported. There is a mediation effect of strategic and entrepreneurial activities on financial resources, but there is partial or no mediation effect on human and technological resources.

With regard to Hypothesis 2, there is again partial mediation of strategic and entrepreneurial activities, since even with the existence of SE in the regression model, economic recession has a significant coefficient. However, this result was expected and is in accordance with our initial premise. Economic recession exerts a strong negative impact on performance in the airline industry because, as previous researchers demonstrate (e.g. Norman et al., 2007), passenger mobility and cargo transportation diminish causing a parallel revenue decrease for airlines. The simultaneous implementation of strategic and entrepreneurial efforts partially alleviates this phenomenon, creating a dual effect, whereby strategic activities foster efficiency, while entrepreneurial activities enhance opportunity exploration and exploitation.

Please see Appendix – Table 3 for coefficients for economic recession with dependent variable: operations results.

## **5. LIMITATIONS AND FUTURE RESEARCH**

In this study, we attempted to investigate the relationship between firm resources and firm performance, testing whether the parallel implementation of strategic and entrepreneurial actions can cause performance differentials and influence the above relationship.

Since SE is in its infancy, we attempted to operationalize it using content analysis and present a case of building an argument on why the logic of SE (opportunity and advantage-seeking) creates balance and its components might in tandem with this positively affect performance. There are several research efforts that need to be taken to strengthen the reliability of this construct since we did not check for inter-rater reliability. We performed this research in the particular context of the airline industry. In future, similar studies should take place within other setting as well, so that

results are more generalizable. Due to the existence of longitudinal dataset at different levels of aggregation, it would be feasible to use generalized least squares (FGLS)—as an important method to analyze panel data— to test the hypotheses generated. However, the current study did not provide this analysis, which should be acknowledged as a limitation and provide avenues for future research.

In addition, in this research our sample size consisted of 30 firms with 300 observations. Although this number is sufficient for the purposes of OLS analysis, a larger sample size would undoubtedly produce more durable results. Furthermore, our dataset includes multi national airline firms across the world, so country specific variables might affect the model's results. In the current research, however, we did not control for this effect. Finally, in this study, we only examined the effect of a limited number of firm resources on firm performance. It would be worth to examine the effect of additional firm resources and capabilities in the above relationships. The use of the dynamic capability theory (e.g. Teece et al., 1997; Zollo and Winter, 2002; Zott, 2003) is one of the theoretical streams that could serve as a platform towards this direction.

Finally, it becomes evident that the successful implementation of strategic and entrepreneurial activities is facilitated by certain firm specific resources. As such, there is need to explore the mechanisms through which such resources are turned into competitive advantages, with the potential to increase firm performance. Although in the current study there is some reference to the important role of firm resources towards this direction, a lot of space for examination remains as to the appropriate bundling and leveraging of different firm resource types (e.g. Sirmon et al., 2007) towards the above direction. Further identification, and exploration, both theoretically and empirically, of other categories of firm resources will provide insight on the ways in which the parallel practice of entrepreneurial and strategic activities is implemented to improve firm performance and wealth creation.

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## APPENDIX

Table 1: Correlations

		Economic_Resseccion	Op_Profit	SE	Financial_assets	technology_assets
Economic_Resseccion	Pearson Correlation	1	-.384(**)	-.063	.000	-.098
	Sig. (2-tailed)		.000	.543	.999	.344
	N	95	93	95	95	95
Operations_Results	Pearson Correlation	-.384(**)	1	.331(**)	-.173	.121
	Sig. (2-tailed)	.000		.001	.098	.249
	N	93	93	93	93	93
SE	Pearson Correlation	-.063	.631(**)	1	-.627(**)	-.596(**)
	Sig. (2-tailed)	.543	.001		.000	.000
	N	95	93	95	95	95
Financial_assets	Pearson Correlation	.000	-.173	-.627(**)	1	.717(**)
	Sig. (2-tailed)	.999	.098	.000		.000
	N	95	93	95	95	95
technology_assets	Pearson Correlation	-.098	.121	-.596(**)	.717(**)	1
	Sig. (2-tailed)	.344	.249	.000	.000	
	N	95	93	95	95	95

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 2: Coefficients for resources with dependent variable: operations result

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	207.289	75.891		2.731	.008
	Financial_assets	-180.453	48.711	-.506	-3.705	.000
	Human capital	136.692	37.375	.309	4.045	.000
	Technology_assets	250.516	71.958	.476	3.481	.001
2	(Constant)	-684.735	222.638		-3.076	.003
	Financial_assets	-107.231	47.967	-.301	-1.836	.098
	Human capital	206.522	42.179	.412	1.918	.059
	Technology_assets	319.696	68.063	.607	4.697	.010
	SE	1222.611	289.824	.490	4.218	.000

Table 3: Coefficients for economic recession with dependent variable: operations\_results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	394.413	88.727		4.445	.000
	Economic_Recession	-665.390	167.808	-.384	-3.965	.000
2	(Constant)	-138.200	194.022		-.712	.478
	Economic_Recession	-600.243	162.035	-.346	-3.704	.040
	SE	712.457	233.351	.285	3.053	.003