

# EMPLOYEES' VALUE CREATION AND VALUE CAPTURE. THE CASE OF AIRLINE INDUSTRY

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## Abstract

The aim of this research paper is twofold: first, to verify whether and to what extent employees' productivity influences firm's value creation and performance; secondly, if and to what extent employees appropriate part of firm's value. We focus empirically on a selected sample of firms in airline industry, in order to check if personnel's productivity creates value, thus contributing to firm performance and sustainable competitive advantage. The reason why we chose this industry is because in this sector operations are critical factors in firm performance.

**Keywords:** Value Creation, Value Capture, Airline Industry

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## 1 Introduction

The aim of this research paper is twofold: first, to verify whether and to what extent employees' productivity influences firm's performance and value creation; secondly, if and to what extent employees appropriate part of the firm's value.

We focus empirically on a selected sample of firms in airline industry, in order to check if personnel's productivity creates value, thus contributing to firm performance and sustainable competitive advantage. The reason why we chose this industry is because in this sector operations are critical factors in firm performance.

The chosen theoretical framework is based on the interactions between human resource management and competitive advantage (MacDuffie, 1995; Huselid, 1995), thus representing a focus within resource-based theory (RBT – Penrose, 1959; Wernerfelt, 1984; Barney, 1991). For this purpose, through literature review we get to the identification of the main variables to take into account to evaluate employees' performance. We apply the concept to a specific sector (airline industry) and then we try to estimate the correlation between employees' productivity, firm's value creation and employees' value capture.

By the empirical test it comes out that employees' productivity is a necessary even not sufficient factor in firm's overall value creation. For airline companies, the main sources of value creation also lie in managerial competences and in specific marketing and relational resources (like relationships with airports and b2c innovative marketing policies).

The starting idea deepens its roots in a literature analysis on the link between value creation and productivity.

In order to define what is value creation, it is necessary to state that since value has to be conceived as a latent variable (Bentler, 1992) in terms of analysis, it has been dealt according to different perspectives over time, giving emphasis to financial performance (Bebchuk and Fried, 2003; Bebchuk, Fried and Walker, 2002) rather than to competitive (Porter, 1985) or social aspects (Blyler and Coff, 2003). Therefore, a more complete concept of value would regard not only financial performance but also market competitiveness, human resources involvement and commitment (talents' advantages and loyalty – Gibb, 2003), reputation (brand and image), as well as social relationships and relative implications.

Although this represents the ideal concept of value, in this piece of work we consider the economic and financial variables, within an in-depth empirical analysis.

## 2 Literature review and theoretical background

Literature on value creation and value capture has traditionally focused on the external stakeholders of the firm rather than on the internal ones, since a large body of literature considers customers, suppliers and investors as units of analysis for value appropriation (Bowman and Ambrosini, 2010; Mizik and Jacobson, 2003). Most researches that, on the other hand, look inside the firm, basically concentrate their attention on the individual level of analysis (Coff, 1999; Holcomb et al., 2009; Bowman and Swart, 2007) since individuals are considered the starting and focal point in the value creation process (Felin and Hesterly, 2007). Sharing this last assumption, there is a core question needing an answer: "Who are the individuals that contribute to shape this level as source of value creation?"

Many contributions are concentrated on the strategic role of the CEO (Della Corte, 2013), of executives and managers (Bailey and Helfat, 2003; Antia et al., 2010), while others study how employee ownership (Poulain-Rehm and Lepers, 2013; Mygind, 2009) or knowledgeable employees (Bartlett and Ghoshal, 2002) influence the creation of value.

In this paper, we mainly focus on human resources as source of value creation and more specifically on the role of employees in this process, since:

- literature on value creation has paid more attention on the role of CEOs, executives and managers rather than on employees;
- strategic management theoretical works state that the “actions of labor” (Bowman and Ambrosini, 2000 p. 10) and the “cooperative employees activities” (Lepak et al., 2007 p.185) are sources of value creation even if a few of them are based on empirical investigations;
- several scholars (Castanias and Helfat, 1991; Coff, 1999; 2010) claim that internal stakeholders appropriate value according to their role in the organization and their relative bargaining power.

Considering employees as potential sources of the multi-stage process of value creation (Bowman and Ambrosini, 2000; O’ Cass and Sok, 2012; Baumann and Stieglitz, 2014), this paper aims verifies if their productivity influences firm performance, considering them as groups and not as individuals.

In order to answer this research question, it is useful to get a glimpse of the literature on this issue. Starting from studies developed within RBT (Coff, 2002; Leonard- Barton, 1992), the human capital, expressed by the experience and the skills of employees (Schulz et al, 2013) represents a critical resource for the generation of firm’s potential benefits in terms of competitive advantage.

Productivity is a very old but still relevant concept, owing to the renewed necessity of considering its impact in situations of economic steadiness or crises and increasing competitiveness at a global level (Kaci, 2006). The economic tradition (Smith, 1776) indicates that the division of labor as well as teamwork are specific determinants of productivity, while several scholars (MacDuffie, 1995; Huselid, 1995; Boxall et al, 2011; Jiang et al, 2012) highlight that human capital can create value for the firm where the productivity is a mediator between them. The theme of productivity is conceived in terms of correlation between human resource management (HRM) practices, human resources productivity and firm’s performance, in connection with: 1) the employee stock-ownership and with the participation to the decision-making process (Pendleton and Robinson, 2011; Mygind, 2009; Poulain-Rehm and Lepers, 2013); 2) a specific efficiency-driven approach (Wright and McMahan, 1992) and, finally, 3) the antecedents of employees’ productivity (i.e.,

education, non-task-task-specific experience, professional, etc.– Schulz et al, 2013).

The new explosion of studies (Pendleton and Robinson, 2011; Schulz et al, 2013) on what precedes and stimulates productivity demonstrates that this issue is central for the question of firm’s value creation. Indeed, the increasing attention of academics on what can enhance productivity is due to the fact that it is considered an indicator of the created value (Nishii et al, 2008; Holcomb et al, 2009).

Right from some definitions, productivity “taps the extent to which the human capital is delivering value to the firm” (Koch and McGrath, 1996, p. 337) or “indicates the extent to which a firm’s human capital is efficiently creating output” (Guthrie, 2001, p.184).

This is the reason why one of the main concerns of firms is how human resources can achieve productivity as well as how to measure the productivity in order to recompense human resources, according to right and inciting compensation practices (Nordhaug, 2004).

Indeed, firms incite the productivity through the design of rewards that may vary in accordance with their degree of productivity (Schultz *et al.*, 2013). Literature on this issue (Millea and Fuess, 2005) supports the thesis that an increase in wages can be translated into an improvement of productivity.

From the literature, however, it does not always appear clearly that productivity expresses the relationship between output and implied resources, occurring when resources are used more efficiently, that is obtaining an increase in output or the same output with a lower use of resources (Kaci, 2006). This concept can be considered both at a specific time or in dynamic terms (variations of output and resource use over time).

The resources can be of different nature, here including labour of course. Considering this aspect in particular, productivity can favour wage increases on one hand. On the other hand, wage increases push employees to higher levels of productivity. Therefore, the true challenge in this field, as several scholars (Carmichael, 1990; Cappelli and Chauvin; 1991; Campbell, 1993) assert, is to measure the effect of wages on productivity.

There is a sort of bi-directional relationship (Yang and DeBeaumont, 2010) between wages and productivity since companies repay the enhancement in productivity through higher pays while wages’ increase can represent an incentive for a greater productivity (Millea and Fuess, 2005). In this direction, many scholars doubt if salaries can be considered as incentives or rather as reward.

The focal aspect is, however, that even if productivity helps firm in managing costs efficiency, this does not necessarily mean major competitiveness, for different reasons. Among the most important, it is appropriate to consider the prices of the resources used to get higher productivity and the different

sources of competitive advantage (that can be linked to differentiation factors rather than to cost leadership strategies). This, of course, also impacts on firm performance, that can increase even when productivity levels remain unchanged.

These latter points are extremely interesting with reference to nowadays airline industry. This sector has in fact known profound changes recently, since today even low cost companies tend to implement not just cost leadership strategies but rather complex strategies that also involve differentiation factors. Such situation proves that Porter's "stuck in the middle" risk concerning competitive strategies is overcome, since companies have to be efficient and differentiated in order to compete successfully in their relative markets.

Therefore, focusing on the role of productivity in this industry, it is interesting to understand whether the outlying of compensation and incentives programs takes place after the achievement of a certain level of productivity or before the measurement of the related amount of productivity.

Furthermore, the relationship between wage and productivity can change according to the labor market conditions (Geweke, 1984) of the related industry.

*The point is that up to now developed contributions do not converge on the role of productivity on firm's value creation and performance.*

In the light of these remarks and observations, the first research question is:

**RQ1:** Does employees' productivity ensure firm's value creation? If yes, to what extent?

Another relevant aspect in the analysis is if these employees, directly involved in the process of value creation, capture the so created value. Although some scholars (Bowman and Ambrosini, 2000) agree that employees can be one of the main sources of value, they also state that these appropriate only a portion.

First of all it is important to consider the difference between general human capital and firm-specific human capital. The former "enhances employees productivity to multiple organizations"; the latter "amplifies an employee's productivity only to the immediate employer" (Schultz et al, 2013, p. 424), since it refers to the capabilities that derive from the skills, the knowledge and the abilities acquired while working in a specific firm and strictly linked to the firm's specificities. A further sub-category to take into account, however, concerning the issue of productivity is that of task specific and non task specific human capital (Balmaceda, 2006), according to which task specific human capital acquires experiences on the current jobs (Thiele, 2007), while non task specific human capital often shows experience gained in prior jobs. These considerations can be very helpful in analyzing the different role of employees' category on productivity and firm performance. Other studies (Holcomb et al, 2009) show that managers influence or even determine the level of resources' productivity and that resource management has itself an efficiency

component. This view, however, also conducts to the paradox that resource quality can also reduce managers' freedom in enhancing productivity on one side and; on the other side, it can remain valuable even in front of managers with low capabilities.

Generally on the theme, however, literature has explored the relationship between productivity and firm's performance and also if the adopted compensation practices encourage employees to share the organizational efficiency-based approach that drives to the increase of productivity (Schulz et al., 2013).

Even though contributions concentrate their attention on the figure of "employee-owner", studying the effect of stock ownership on both employee and firm productivity (Pendleton and Robinson, 2011; Mygind, 2009) and the relative compensation systems, less are the researches on the employees, working at different organizational levels (i.e., operational and technical level).

Literature (Coff, 1999; 2010) on value capture is mainly focused on the mechanisms that determine employees' value capture (i.e., bargaining power and capabilities).

This paper considers the relationship between value appropriation and organizational performance.

Therefore, there are two critical aspects to take into account: 1) also on this issue there are some different or even contradictory results and; 2) if, in some cases, employees capture organizational performance. For this reasons, we think it is necessary to clarify both aspects, getting to the formulation of the second research question:

**RQ2:** Do employees capture part of the organizational performance?

The strength of this research question resides in recognizing the centrality of the capture of value as employees' value capturing can then favour the overall process of value creation.

This research question aims at verifying if the categories of employees working at the operational level of some airline companies capture some of the organizational performance.

## 2 Methodology

In order to test our research questions, we have made an analysis on airline companies, with reference to which some studies (Klein, 2012) assert that the more high levels of productivity contribute to the company's success the higher the compensation and benefits for employees are.

This approach is in line with other studies that specify that in the case of airline companies compensation plans as well as operating procedures and social norms (Kole and Lehn, 1999) constitute the corporate culture and the set of compensation and incentives can influence and shape employees' behavior.

Pilots and co-pilots are defined as “atypical employees” (Harvey and Turnbull, 2006 p.332) owning “strategic skills” both generic and specific (Johnson 2002, p.22) or, in other words, “high-specialized skills” (International Air Transport Association, 2011).

Their significant bargaining power and their possible mobility (Johnson, 2002) insert them in a privileged position for the capture of the created value. Despite this theoretical consideration, actually the analysts of the sector state that the wages of this category are near minimum wage (Nicas and Carey, 2014) and they ask for “more flexible work rules” (Mouawad, 2012).

To these reflections, it is also important to add that a difference in compensation policies exists between low cost and full cost airlines (Hunter, 2006).

Indeed, they are inferior in the case of low cost as the average of days per annum is lower than for the full cost.

Flight Attendants and Maintenance own the right attitudes as “the lack of an attitude of superiority” (Klein, 2012 p. 38) as well as relational competences.

Flight attendants display a key role during the service encounter (i.e., problem solving capabilities) and they are responsible for services regularly required by regulators (Boudreau and Jesuthasan, 2011).

Finally, maintenance as well as passenger, cargo and aircraft handling represent two voices of the major operational costs that need to be streamlined. Airline companies sometimes outsource part of these activities in order to optimize the relative costs.

To test our research questions we apply a complex research method that is both qualitative and quantitative. It is in fact based on the above illustrated literature review, in order to find out the still existing research gaps in the up to now developed contributions. Then we test the results of the theoretical analysis on a sample of airline companies, selected as follows:

- airline companies that are members of MIT Airline Industry Consortium;
- that adhere to the Airline Data Project established by the MIT Global Airline Industry Program;
- that belong to the U.S. commercial airline industry.

On this sample, we apply Structural Equation Modelling (SEM), in order to better study the existing link between employees’ productivity and firm’s value creation. Indeed, literature (Schulz et al, 2013; Koch and McGrath, 1996; Guthrie, 2001) suggests that productivity is an indicator of the created value for the firm. More precisely, this work tries to understand whether some measures of productivity affect firm’s value creation.

On the other side, we use SEM to study another link between employees’ productivity and the related captured value. This step allows us to comprehend if

firm’s compensation policies influence employees’ productivity.

SEMs are “multivariate techniques combining aspects of multiple regression (examining dependence relationships) and factor analysis (representing unmeasured concepts with multiple variables) to estimate a series of interrelated dependence relationships simultaneously” (Gefen *et al.*, 2000, p. 72).

We propose this specific methodology because it allows to model relationships among multiple predictor and criterion variables (Chin, 1998) and to examine a series of dependence relationships simultaneously. Finally, SEM enables to measure latent (unobservable) variables. These attributes allow to answer a set of interrelated research questions in a single, systematic and comprehensive analysis (Gefen *et al.*, 2000).

In our model, value creation, value capture and firms’ performance represent the latent variable. As the latent variable cannot be measured directly, we define a set of indicators as measure of them.

More precisely, with regard to value creation, this paper adopts the following indicators as measures of productivity as they are used by both analysts (i.e. Airline Data Project) and scholars (Zhu, 2011; Tsoukalas et al., 2008) to measure productivity:

➤ *available seat miles per employees*: this indicator expresses the airline carrying capacity. It concerns how many seat miles are available for airline per employees and are the result of a multiplication between “the available seats for a given plane and the number of miles that plane will be flying for a given flight” (Investopedia, 2014);

➤ *employees per aircraft*: this measure indicates how many employees are used per aircraft;

➤ *passengers per employees*: this measure is the indicator of how many passengers are effectively carried compared to the number of employees;

➤ *passenger revenue per employees*: this measure indicates the passenger revenue that a firm generates divided by the number of employees.

These variables have been used to predict the value of the latent variable. The focus on productivity finds its routes in the importance that US airlines give to its relative indicators<sup>1</sup>.

These above-cited indicators are items of the so-called “multifactor productivity” as they are “the factor produced per unit of all combined factors of production” (Kaci, 2009).

The items of multifactor productivity are related to the categories of pilots and co-pilots, flight attendants, cargo, handling and maintenance.

For the study of employees’ value capture, salaries, benefits, pensions and payroll taxes are used as indicators of the value capture.

Data analysis is structured according with two steps. The first one concerns an assessment of the

<sup>1</sup> [http://web.mit.edu/airlines/analysis/analysis\\_airline\\_industry.html](http://web.mit.edu/airlines/analysis/analysis_airline_industry.html)

measurement model (i.e. construct validity and reliability). The second one refers to the assessment of the structural model.

In this phase, we use SmartPLS to perform the analysis. It is a software application able to perform path modeling with latent variables using the partial least squares (PLS) method. In PLS approach, data are modeled by a succession of simple or multiple regressions.

Before proceeding with the analysis of the model, we performed both reliability and validity analysis.

The choice around this technique is due to the fact that its flexibility allows the analysis of a large number of missing values of variables with high correlation for a sample that, like in this case, is made of a small number of firms.

SEM techniques are the results of two perspectives: the econometric and psychometric.

The econometric perspective focuses its attention on prediction while the psychometric one is based on latent variables that can be measured through the observed variables.

As Carmeli *et al* (2012) suggest there are several strengthen in the adoption of SEM. First, whereas this paper has multiple indicators for the study of latent variable, SEM is the most suitable tool (Holmbeck, 1997). Second, SEM allows to measure the existence of errors and, consequently, whether a right relationship among variables exists (Baron and Kenny, 1986). Third, SEM is used when there are mediators and one dependent variable (Hoyle and Smith, 1994) that in our case is the performance as it depends on the indicators of productivity. Moreover, SEM confronts the goodness-of-fit with the alternative specification (Cheung and Lau, 2008).

In the following part, we show the results of our analysis through SEM. The results in table 1, 2, 3 and 4 show that data pass the test of validity and reliability.

### 2.1 Model test and goodness-of-fit test

Before proceeding with the test of SEM, reliability and validity are here tested. Reliability is assessed through composite reliability (Hair *et al.*, 1998). "Composite reliability is the extent to which a variable or a set of variables is consistent in what it is intended to measure" (Rouibah, 2008). Convergent validity is assessed through AVE (Fornell and Larcker, 1981). Table 1 and table 2 show these values.

For both value creation and value capture, AVE is greater than 0.50 and this means that adequate convergent validity (Fornell and Larcker, 1981; Hair *et al.*, 1998).

Values composite reliabilities are greater or close to 0.80. This means that there is a significant convergent validity (Gefen *et al.*, 2000), a part for the performance in value creation that is 0,623899 as we have few indicators.

Finally, the values of R Square are closed to 1. This means that these values well predict the sample.

Furthermore, tables 3 and 4 show the discriminant validity calculated through the Square-Root of AVE.

In the case of data of value creation and value capture, data passed the test of discriminant validity. In each case, the square root of the average variance extracted exceeds the correlations of the construct with the all of the other constructs.

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**Table 1.** AVE, Composite Reliability and R Square for value creation

	AVE	Composite Reliability	R Square
<b>Performance</b>	0,563817	0,623899	0,894021
<b>V.Creation_FlightAttendants</b>	0,91848	0,928398	
<b>V.Creation_Handling</b>	0,918277	0,928516	
<b>V.Creation_Maintainance</b>	0,88646	0,893752	
<b>V.Creation_Pilots</b>	0,624194	0,754535	

Source: our elaboration

**Table 2.** AVE, Composite Reliability and R Square for value capture

	AVE	Composite Reliability	R Square
<b>Performance</b>	0,93	1	0,852092
<b>VCap_FlighthAttendants</b>	0,996963	0,998479	
<b>VCap_Handling</b>	0,652169	0,785597	
<b>VCap_Maintenance</b>	0,574779	0,729976	
<b>VCap_Pilots</b>	0,665998	0,794251	

Source: our elaboration

**Table 3.** Discriminant validity for value creation

Performance	Performance	VC_FlightAttendants	VC_Handling	VC_Maintainance	VC_Pilots
Performance	0,75				
VC_FlightAttendants	0,700151	0,95			
VC_Handling	0,406174	0,271406	0,95		
VC_Maintainance	-0,653785	-0,198165	-0,159545	0,94	
VC_Pilots	0,566835	0,946309	0,422109	-0,100244	0,79

Source: our elaboration

**Table 4.** Discriminant validity for value capture

	Performance	VCap_FlighAttendants	VCap_Handling	VCap_Maintenance	VCap_Pilots
Performance	1				
VCap_FlighAttendants	-0,347106	0,99			
VCap_Handling	0,557563	0,27168	0,81		
VCap_Maintenance	-0,383497	0,748041	0,351282	0,75	
VCap_Pilots	0,449585	-0,610157	0,429641	-0,377535	0,81

Source: our elaboration

Our data indicate that the measures are robust in terms of their internal consistency reliability as indexed by the composite reliability. In order to evaluate the validity of measurement instrument, we computed the Square-Root of AVE. In our case, the square root of the average variance extracted were always much larger than the correlations of the construct with the all of the other constructs. Therefore, the data passed the test of discriminant validity as well. This means that the indicators (items) used to measure the latent constructs have much more in common with the construct that they should measure rather than with the other latent variables. Therefore, both reliability and validity analysis of measurement instrument confirm and validate its goodness.

Once the step of assessment of the model is made, the second step concerns the estimation of the parameters of the structural model.

## 2.2 Research questions test

The structural equations in PLS are calculated using Ordinary Least Square (OLS) multiple regression. Consequently, they are interpreted in the same manner as the standardized beta coefficients of ordinary least squares. The significance of the path coefficients was assessed using the bootstrapping technique for

assessing the accuracy of statistical estimates (Efron and Tribshirani, 1998). PLS uses bootstrapping to create a bootstrapping distribution for each path coefficient. The mean and a standard error can be calculated from the bootstrapping distribution. The mean and standard error allow a t-value to be calculated (Henseler et al., 2009) which can be used to estimate the significance of the path coefficients (Chin, 1998).

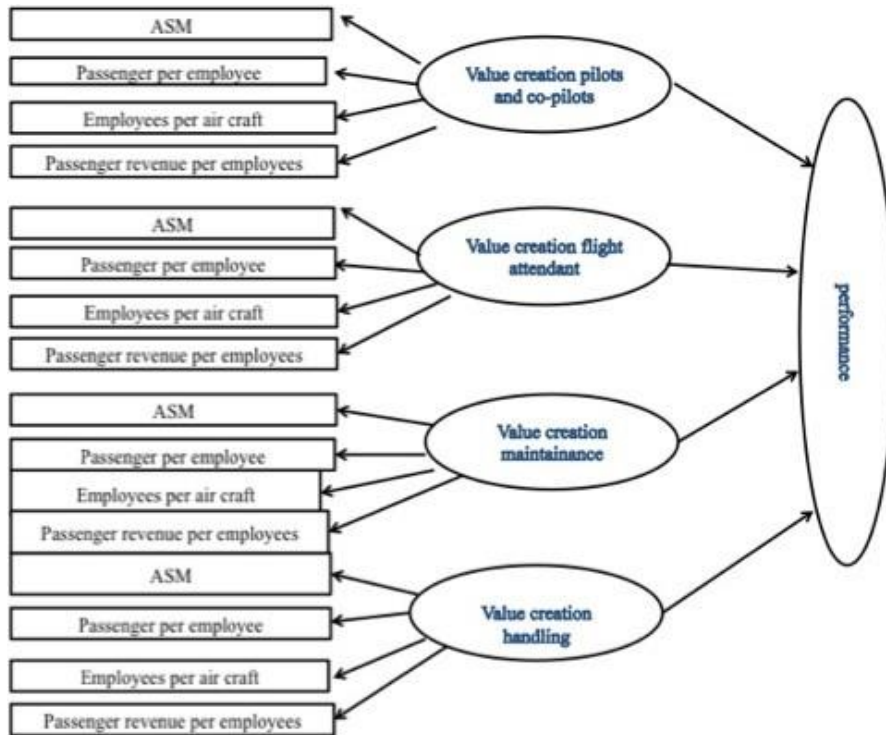
The aim is, indeed, to verify the hypothetical contribution of each group coming from the operational level to the value creation.

The latent variable of this SEM is the value creation of pilots and co-pilots, flight attendants, maintenance and handling while the manifested variables are the indicators of productivity.

Indeed, we test whether the productivity of each group influences the firm performance. The measures of productivities are indicated by the Airline Data Project and are ASM per employees, employees per aircraft, passengers per employees and passenger revenue per employees. These constitute the manifested variables for the evaluation of the latent variable (value creation).

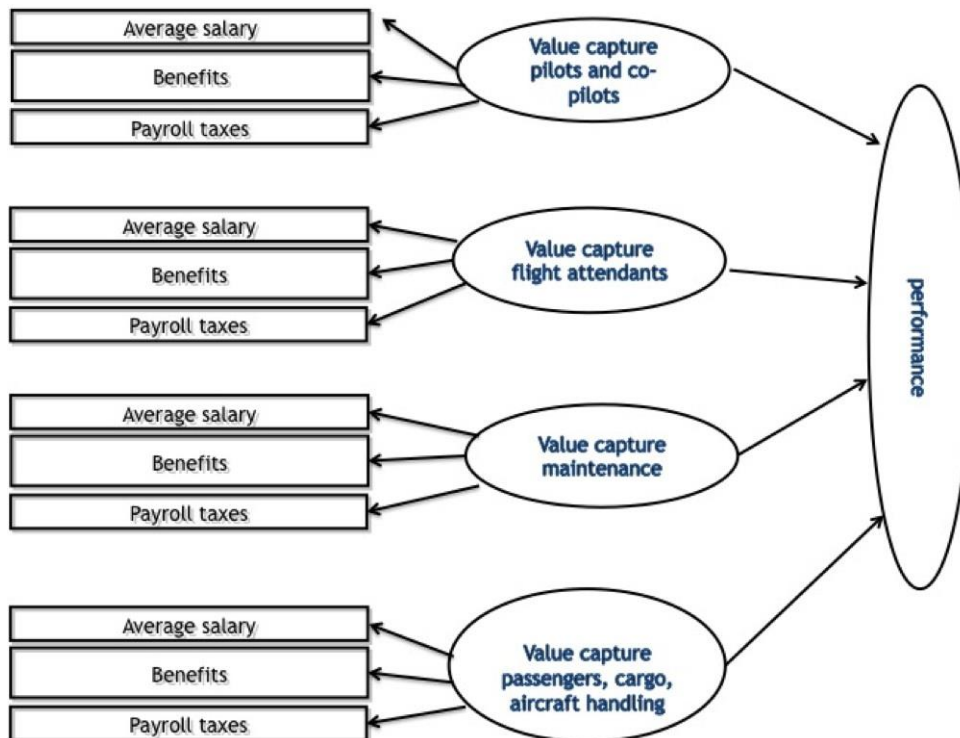
As regards the model of value capture (latent variable), this latter is function of dependent variables represented in the rectangle.

**Figure 1.** Structural Equation Modelling for value creation



Source: our elaboration

**Figure 2.** Structural Equation Modelling for value creation



Source: our elaboration

In order to analyze the relationship between the value created and the value appropriated by the employees working at operational level of nine

airlines companies, SEM is the useful methodology to explore this link.

Table 5 presents the beta and t-statistics. In the light of this analysis, interesting results spring out.

First of all, *t*-statistics show the possible influence between the productivity and the organizational performance. Looking at this ratio, it is possible to state that while the productivity of flight attendants influences the firm performance (*t*-statistics 5,646006), the productivity of the other categories of employees does not influence the performance. Indeed, the productivity of pilots and co-pilots (*t*-statistics 1,192791), of maintenance (*t*-statistics 0,895657) and of handling (*t*-statistics 0,982582) does not impact on the organizational performance. The *t*-tabulated is 2,306.

Secondly, the beta coefficient highlights whether there are specific and statistically significant link between employees' productivity and organizational performance. For the groups of maintenance (beta = -0,376141) and pilots (beta = -1,257958,) that there is not specific and statistically significant link between their productivity and the performance. As regards the category of handling the link is not significant (beta = 0,414832). Finally, the group of flight attendants is the only one to have a specific and statistically significant link between productivity and performance (beta= 1,703443). The *p*-value is 0.05.

Although these results can appear contradictory, the most significant thing to consider, exploring the relationship between employees productivity and value creation, is that we need to evaluate both process level performance and firm level performance. The particular and overloaded attention on value creation at firm's level has led to underestimate the importance of the results at process level performance.

Indeed, according to Bowman and Ambrosini (2010, p. 480) human resources are able to create use value "in the form of performed services or activities". Furthermore, they add the feature of human inputs is to create "new use value".

In the light of this observation, the productivity measured here in terms of ASM per employees, employees per aircraft, passengers per employees, passenger revenue per employees is the new use value created by the human resources.

These measures can be checked at a process level rather than a firm's level performance as the result of the created value, that in Bowman and Ambrosini terminology is called "Use Value".

Furthermore, firm profitability is given by the difference "between the flow of revenues and the flow of costs" (Bowman and Ambrosini, 2010).

If we consider labor cost, this represents one of the highest with the fuel one (Tsoukalas *et al*, 2008; Doganis, 2006). This explains why through the application of SEM, a positive relationship between employees' productivity and firm performance has not been observed.

As regards the value capture issue, *t*-statistics and *beta* coefficients helps in the understanding of the contingent relationship between the creation and appropriation of value.

Through this analysis, it is possible to state that flight attendants (*t*-statistics 0,086424), pilots and co-pilots (*t*-statistics 0,683537), maintenance group (*t*-statistics 0,810924) and handling group do not capture value (*t*-statistics 0,496169). The *t*-tabulated is 2,306.

Furthermore, the beta coefficient reveals not significant link between the categories of flight attendants (beta = 0,071975), handling (beta = 0,45508), maintenance (beta= 0,778627) and value capture. Moreover, the group of pilots and co-pilots does not show a specific and statistically significant relationship between their value creation and value capture (beta= -0,333401). The *p*-value is 0.05.

Looking at these results, employees at operational level seem to not capture the value they create. Our manifested variables in the applied SEM are compensation, pension, payrolls and benefits, while thanks to the case study analysis of the observed companies it has sprang out that the total rewards of these airlines companies are shaped, a part from compensation, by a series of benefits and privileges that are excluded from the actual analysis.

Second, the value captured originates from the relative bargaining power of the subjects involved in this process. According to Coff (1999), the capture of value also depends on the employees' ability to create unified actions.

### 3 Results, limitations and first conclusions

Results show that at the operational level there is no specific and statistically significant link between employees' productivity and value creation.

These results must be read in the light of the attention paid by airline companies in improving productivity but also in cutting operating, of which the labor cost belongs to.

This is testified by the fact that U.S. airline companies have made significant efforts and changes in what regards labor costs and productivity (Global airline Industry, 2014) in last years. The major challenges in the last two decades come from the areas of cost management and productivity (Global airline Industry, 2014). However, as shown in the analysis, for these companies cost leadership and differentiation are more and more linked over time. This is the reason why we decided to measure the created value in terms of revenues and market share, differently from previous studies (Wojahn, 2012).

A relevant result of the study, exploring the relationship between employees' productivity and value creation, is that we need to evaluate both process level performance and firm level performance. The particular and overloaded attention on value creation at firm's level has led to underestimate the importance of the results at process level performance.

Indeed, according to Bowman and Ambrosini (2010, p. 480) human resources are able to create use value "in the form of performed services or activities". Furthermore, they add the feature of human inputs is



to create new use value. Furthermore, firm profitability is given by the difference “between the flow of revenues and the flow of costs” (Bowman and Ambrosini, 2010).

In the light of these observations, the productivity measured here in terms of ASM per employees, employees per aircraft, passengers per employees, passenger revenue per employees is the new use value created by the human resources.

**Table 5. Results**

Research question	Path	Beta	t-statistic	Validation
RQ1	V.Creation_FlightAttendants -> Performance	1,703443	5,646006	Supported
RQ1	V.Creation_Handling -> Performance	0,414832	0,982582	Not supported
RQ1	V.Creation_Maintainance -> Performance	-0,376141	0,895657	Not supported
RQ1	V.Creation_Pilots & Co-pilots -> Performance	- 1,257958	1,192791	Not supported
RQ2	V.Capture_FlightAttendants -> Performance	0,071975	0,086424	Not supported
RQ2	V.Capture_Handling -> Performance	0, 45508	0,496169	Not supported
RQ2	V.Capture_Maintainance -> Performance	0,778627	0,810924	Not supported
RQ2	V.Capture_Pilots & Co-pilots -> Performance	- 0,333401	0,683537	Not supported

If we consider labor cost, this represents one of the highest with the fuel one. This explains why, through the application of SEM, a positive relationship between employees’ productivity and firm performance (revenues and market share) has not been observed. The above explained results at a process level rather than at a firm’s level could be better study, in further research, focusing on firm’s efficiency. This will be a successive analysis that is worth to be done, in order to better explain the issue.

In this paper, however, it also emerges that, in accordance with previous literature (Bowman and Ambrosini, 2000, 2010), it is appropriate to identify the activities that can be source of values.

As regards value creation, these first results exhibit that productivity of the operational level is not a source of value creation even if operations are very critical for the firms of this industry. They in fact generate several fixed costs that cannot be changed easily. Another important hint is that for these firms there are more relevant aspects to take into account, as underlined in other contributions (Della Corte, 2013), such as marketing strategies, relational capabilities in dealing with airports just to underline the most important and human resource management techniques, that are more bound to other aspects rather than to productivity.

Looking at the value chain activity of airline companies, sources of value creation can reside also in different activities from operations, such as marketing activities.

The range of marketing activities is often contemplated as value-creating activities by both scholars (Driver, 1999; Aksoy *et al.*, 2003) and managers.

The best companies, indeed, exploit marketing activities to have better and increasing profits. In this direction, Southwest Airlines is a glowing example as marketing managers state “Every marketing dollar funds a direct connection to an in market consumer” (Southwest, 2014).

On the other side, employees’ value capture and, hence, the systems of compensation and benefits established by the airline companies influence the employees’ productivity. This latter result shows not only significant but also strong relationship between value capture and productivity. This is in line with recent researches in other fields (Baumann and Stieglitz, 2014). However, further study should analyze deeply the amount of and the extent to which employees appropriate the value they created for the organization.

Despite previous theoretical contributions, this work represents a first advancement in the theory on strategic human resource management, as it represents an empirical analysis in a set of literature mainly represented by conceptual works. In fact, in the paper we observe if and to what extent productivity impacts on organizational performance and, at the same time, whether employees capture this organizational performance, through the adoption of a quantitative methodology.

Apart from the already underlined limitations, this research also show others: first, it is referred to a very specific sector and therefore results are not so generalizable; second, further analysis is necessary, in order to better study where the main sources of value and competitive advantage lie (management, rather than specific processes and/or approaches). Therefore, it would be useful to apply the proposed model to different industries, in order to test its validity across

sectors. In any case, we can assert that this work tries to add contents to research on these issues also with a more practical and empirical approach, since most of the studies on the topic still remain conceptual (Della Corte and Del Gaudio, 2014).

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