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The Analysis of Airline Business Models in the Development of Possible Future Business Options

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Innovations in the current interconnected world of organizations have lead to a focus on business models as a fundamental statement of direction and identity. Although industry transformations generally emanate from technological changes, recent examples suggest they may also be due to the introduction of new business models. In the past, different types of airline business models could be clearly separated from each other. However, this has changed in recent years partly due to the concentration process and partly to reaction caused by competitive pressure. At least it can be concluded that in future the distinction of different business models will remain less clear. To advance the use of business models as a concept, it is essential to be able to compare and perform analyses to identify the business models that may have the highest potential. This can essentially contribute to understanding the synergies and incompatibilities in the case of two airlines that are going in for a merger. This is illustrated by the example of Swiss Air-Lufthansa merger analysis.The idea is to develop quantitative methods and tools for comparing and analyzing Aeronautical/Airline business models. The paper identifies available methods of comparing airline business models and lays the ground work for a quantitative model of comparing airline business models. This can be a useful tool for business model analysis when two airlines are merged.

Field of Research: Management, Business models, Airline business models.

1. Introduction

Organizations are increasingly inter-connected as they source talent, goods and services from other organizations located in disparate parts of the world (Keen P 2006). They seek new ways of creating value for themselves, customers and partners. They operate outside and across traditional industry boundaries and definitions. These innovations have lead to a focus on business models as a fundamental statement of direction and identity. Although industry transformations generally emanate from technological changes, recent examples suggest they may also be due to the introduction of new business models.

To advance the use of business models as a concept, it is essential to be able to compare and perform analyses to identify the business models that may have the highest potential. This can essentially contribute to understanding the synergies and incompatibilities in the case of two airlines that are going in for a merger.

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2. The Airline Business Models

It has been observed that while it has become fashionable to discuss business models, there is no widely-adopted definition of the term .It has also been found that the business model activities could be divided into four categories: strategic choices, the value network, creating value and capturing value(Shafer et al. 2005).

They proposed the following definition: "A business model is a representation of a firm's underlying core logic and strategic choices for creating and capturing value within a value network" (Osterwalder 2005), in his research and work on a business model ontology, concluded that there were nine main building blocks that made up the business model and defined it as follows. "A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams."

There are three main business models in the airline industry (Rigas Doganis 2006). The traditional airline business model exemplified by Airfrance, BA etc, and the Virtual airlines such as Ryanair, Southwest and the Aviation business groups such as Lufthansa or Singapore Airlines. There are also business models that follow the firm within the firm approach such as Jetstar with Qantas and Tiger with Singapore. The recent merger of BA and Iberia forming the International Airlines Group and the plans to acquire airlines falling in all the above categories show a growing trend in consolidation and evolving innovation in the way the industry is heading.

It has been argued that as uncertainty increases, companies are finding themselves facing a high ratio of uncertainty to knowledge as decisions are based on old assumptions leading to unfortunate outcomes (Mcgrath& MacMillan 2009). Clearly, it is possible to infer that the company operating a traditional business model struggles to remain competitive. They have called for evaluating change options using financial models. The concept of three A´s Accept, Asses and Augment to deal with taking decisions in an uncertain environment is also useful (Makridakis, Hogarth& Gaba 2010). But they also suggest for an evolving business model to deal with uncertainty. Flexibility is the necessary condition to validate the use of options to mitigate an uncertainty (Brautigam, Esche& Bicher 2003) . Thus the identification of options inherent in a strategy could be driven by the identification of those uncertainties towards which a reaction is possible . These comments on the uncertainty of the business environment and the need for flexible options are particularly relevant in the case of airline mergers. 75% of the airlines say that consolidation is slowly but surely gaining momentum (Iatrou & Oretti 2007). Experience has shown that merger attempts where a new entity was established, as in the case of Alitalia/KLM in the early 2000, failed mainly as a result of the difficulty in managing an entity in which the business models where not compatible for a merger whereas in the case of EasyJet and Ryanair, each acquiring another low-cost airline, respectively Go Fly and Buzz, We find that both takeovers had an immediate and sustained impact on both the pricing structures and the extent of inter-temporal price discrimination used on the acquired routes, with early booking fares noticeably reduced and only very late booking fares increased (Dobson& Piga 2009). The effect of both takeovers as a consequence of the introduction of the acquiring firms' business models and associated yield management pricing systems has been positive and shows that an effective business model comparison was possible before the acquisition. The comparative studies will be even more important as airlines go in for mergers or acquisitions with the airlines from emerging markets like India or China that have business models that gives and emphasis on the services offered.

3. The Comparison of Different Airline Business Models

To advance the use of business models as a concept, it is essential to be able to compare and perform analyses to identify the business models that may have the highest potential. The available literature on business models have been reviewed to find out methods aimed at comparing and evaluating business models from the perspective of the airline industry.

Bieger and Wittmer (2005) have listed and compared success factors and driving forces of different airline business models (see figure 1). According to them, comparing business models of destinations and airlines, it seems feasible that in not all cases is there a synergy between them.

Figure 1: Business model comparison (Bieger& Wittmer 2005) based on the success factors and driving forces of different airline business models

Business model	Network/hub airlines	Regional airlines	Low-cost carriers	Charter airlines
Success factors	Extensive market coverage/ market share and growth (due to network effects) Alliances Ability to adopt good and homogeneous processes and quality	Serving niches Flexible cooperation with alliances Cost efficiency Domination of regional markets	Simple processes Cost efficiency Strong traffic flows	Tour operation relation/ Integration Cost effectiveness Integrated capacity management
Driving factors at the moment	Search for markets and market share	Search for niches	Driven by search for routes with self-generating, strong traffic flows	Driven by tour operators interest in markets and integration of the value chain
Perspective of business model	Consolidation, division of markets leads to a reduction of services to peripheral destinations Concentration on best-paying Segments Better fit of capacities to wellpaying segments (smaller planes, more frequency)	Concentration of business to niches Closer cooperation with alliances		

Figure 2: Business model comparison (Graf 2005) original business model compared with the low cost model.

	British Airways / Go			KLM / Buzz			KLM / Basiq Air			Lufthansa / Germanwings			"Swiss in Europe"		
	iden-tical	related	sepa-rated	iden-tical	related	sepa-rated	iden-tical	related	sepa-rated	iden-tical	related	sepa-rated	iden-tical	related	sepa-rated
Destinations served		x				x		x			x		x		
Segments addressed		x			x			x			x			x	
Branding		x				x			x			x	x		
Pricing system			x		x				x			x		x	
Means of production			x		x				x			x	x		
Emphasis on distribution channels			x			x			x			x		x	
Organisation / staff		x				x			x			x	x		
Corporate context (Org. separation)			x		x			x				x	x		
Competences (Autonomy)			x		x			x				x	x		

Graf (2005) has compared airline business plans where several features of conventional airlines and their low fare options are examined for compatibility and differences (see figure 2). Its shown that the extent of negative impacts in the business also depend on the approach taken by management, whether it has been decided to integrate or separate the branding and communication concept, the markets and segments served, and the means of production and organization deployed and are thus worthy to be analyzed in business model analysis. (Mason &Morrison 2008) have used a spider web profile to display the performance index of low cost airlines in Europe (see figure 3). They have demonstrated by comparison how differences in the business models adopted by the different airlines contribute to their profitability. Franke (2004) looked at competition between network carriers and low-cost carriers, and mapped the different business models towards service level and complexity demonstrating that the Current Hub & Spoke business model is widespread and entails complexity (see figure 4).

Figure 3: Business model comparison (Mason& Morrison 2008), Spider web profile to display the performance index of low cost airlines.

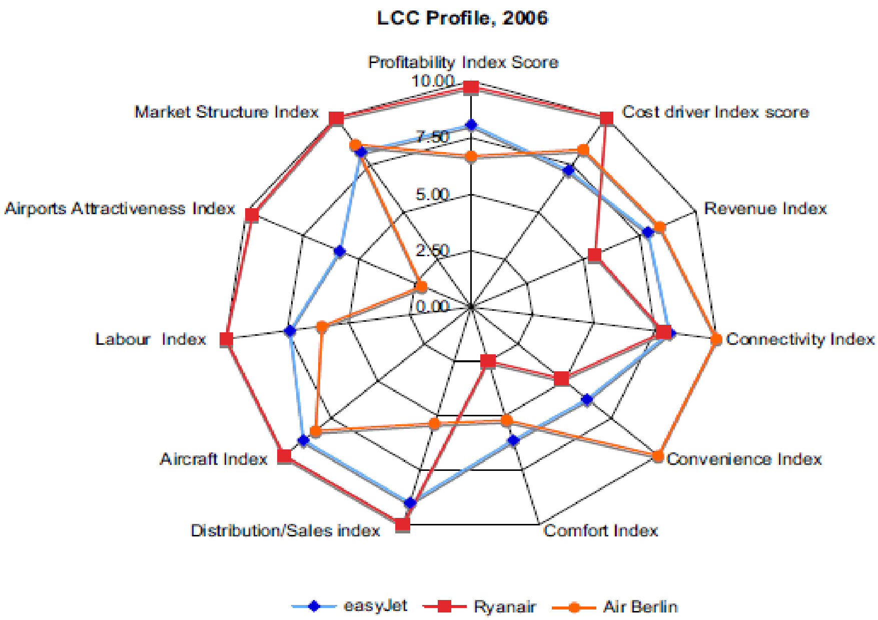
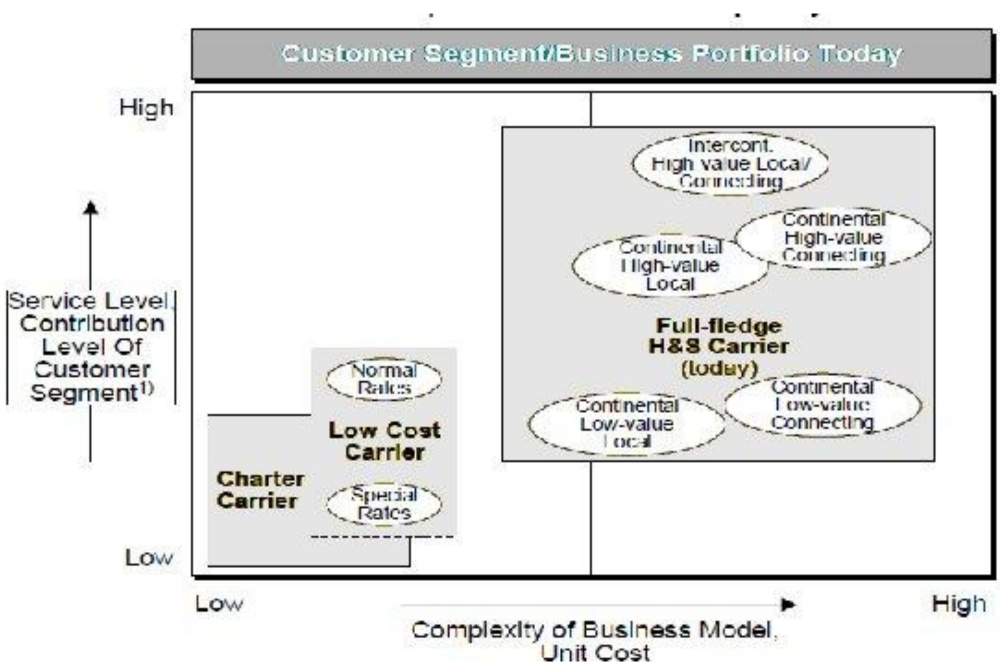


Figure 4: Business model comparison (Franke 2004) based on service level and complexity.



4. The Business Model Comparison Using Systems Thinking

Meaningful definitions of and distinctions between airline business models are not easily formulated, particularly when one considers the extremely dynamic nature of the industry. In order to provide a more coherent and consistent understanding of airline network management and strategy, we need a comparative approach towards classifying and relating key elements of airline business models. For many, a business model analysis means just a financial analysis of revenue, expenses and investment required and ultimately arriving at a success factor analysis. This gives only a partial picture in financial terms and often excludes the strategic, product and organizational aspects. For the airline industry, network management can be considered as one of the core competence and is the most important factor in any analysis.

The idea is to develop quantitative methods and tools for comparing and analyzing aeronautical/airline business models. Literature survey reveals lack of quantitative tools and methods to analyze business models. This is necessitated by the demands placed on aeronautical/airline companies that go for mergers and acquisitions. The need to analyze relative strengths and weakness is necessary to arrive at a successful merger and evolve in to a business model with positive commonalities. This requires both strategic and quantitative studies. This is because merger analysis is necessarily predictive. Absolute precision in merger analysis, therefore, is not possible; and that statistical calculations are not the only sources of economic wisdom.

In an attempt to give functionality to the concept of a model, a data set of benchmark metrics has been suggested. By developing separate indices for different elements in the business model the interaction between the items and the importance of each item to the overall performance of each airline can be more easily identified and their impact on the overall performance assessed.

The comparison model should have a common platform that can be applied to any airline in general because of the following fact: In the past, different types of airline business models could be clearly separated from each other. However, this has changed in recent years partly due to the concentration process and partly to reaction caused by competitive pressure. At least it can be concluded that in future the distinction of different business models will remain less clear. Competition continues to have its effect on the market developing further ideas and providing the best product in the interest of the consumer. The indices are to be developed in the areas that conform most to the core competence of the airline and thus airline network management. It should also take in to account the important elements of the airline business model.

The elements that are to be considered in such an analysis are the following:

- Profitability
- Cost drivers
- Revenue achievement
- Connectivity
- Service level

- Destinations served
- Distribution/sales
- Aircraft productivity
- Labour productivity
- Market structure

The important elements of the business plan that are identified from the aeronautical/airline business model are used in the strategic analysis of mergers and acquisitions in the airline industry, to understand the effect of these elements in the process and also the impact on the business model. (Iberia-BA, KLM-Air France mergers). The study is expected to reveal how the M&A will affect the business model in terms of the identified elements and also its effect on other elements. This will require the analysis to have a systems approach. The business model has far more complexity than the financial aspect, and can in fact may be understood as the description of how a business strategy will be translated into activities and operations. Osterwalder (2004) has proposed a systems map of business model elements (see figure 5). This is extended to the traditional airline (see figure 6) and also the new concept of airline business groups that are formed either by heavy investments like emirates or by mergers and acquisitions like BA-Iberia that eventually formed the International Airline. Group (see figure 7).

Figure 5: Business model systems map based on Osterwalder (2004).

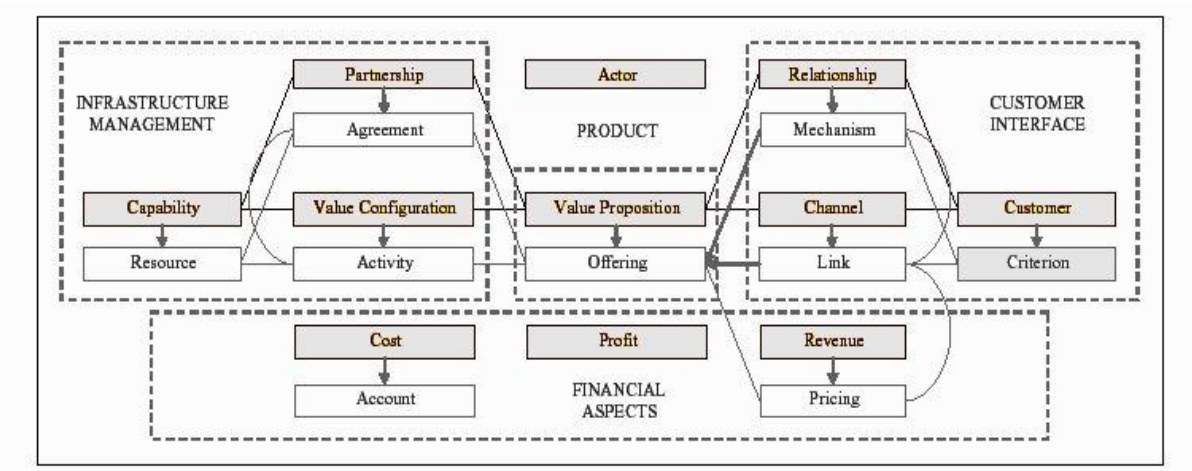


Figure 6: Application of Osterwalder systems model to a traditional airline business model.

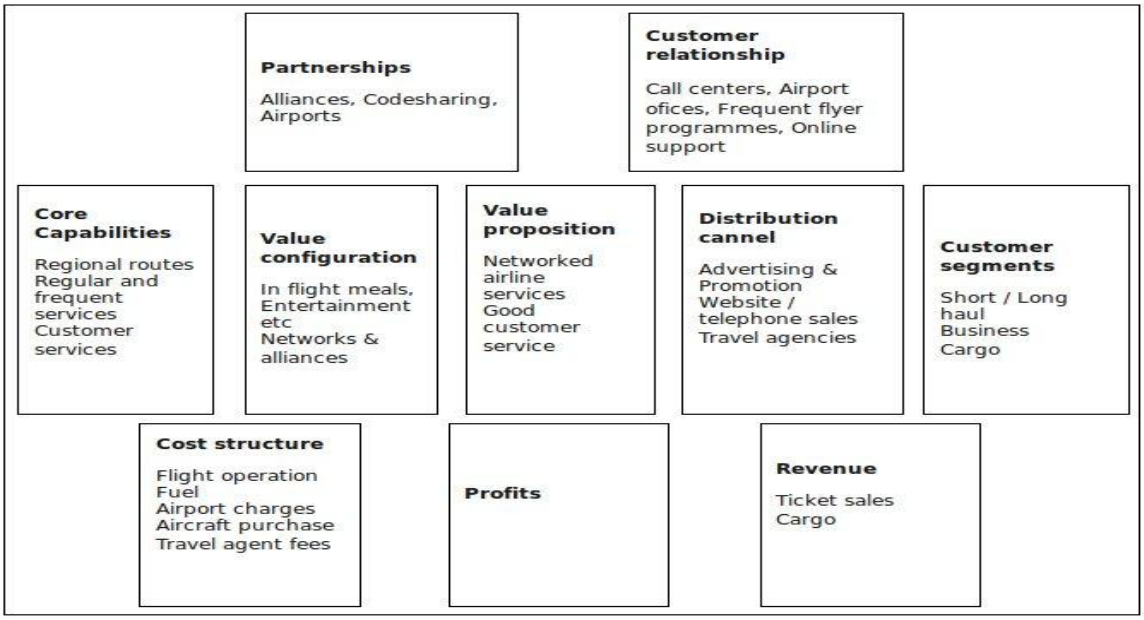
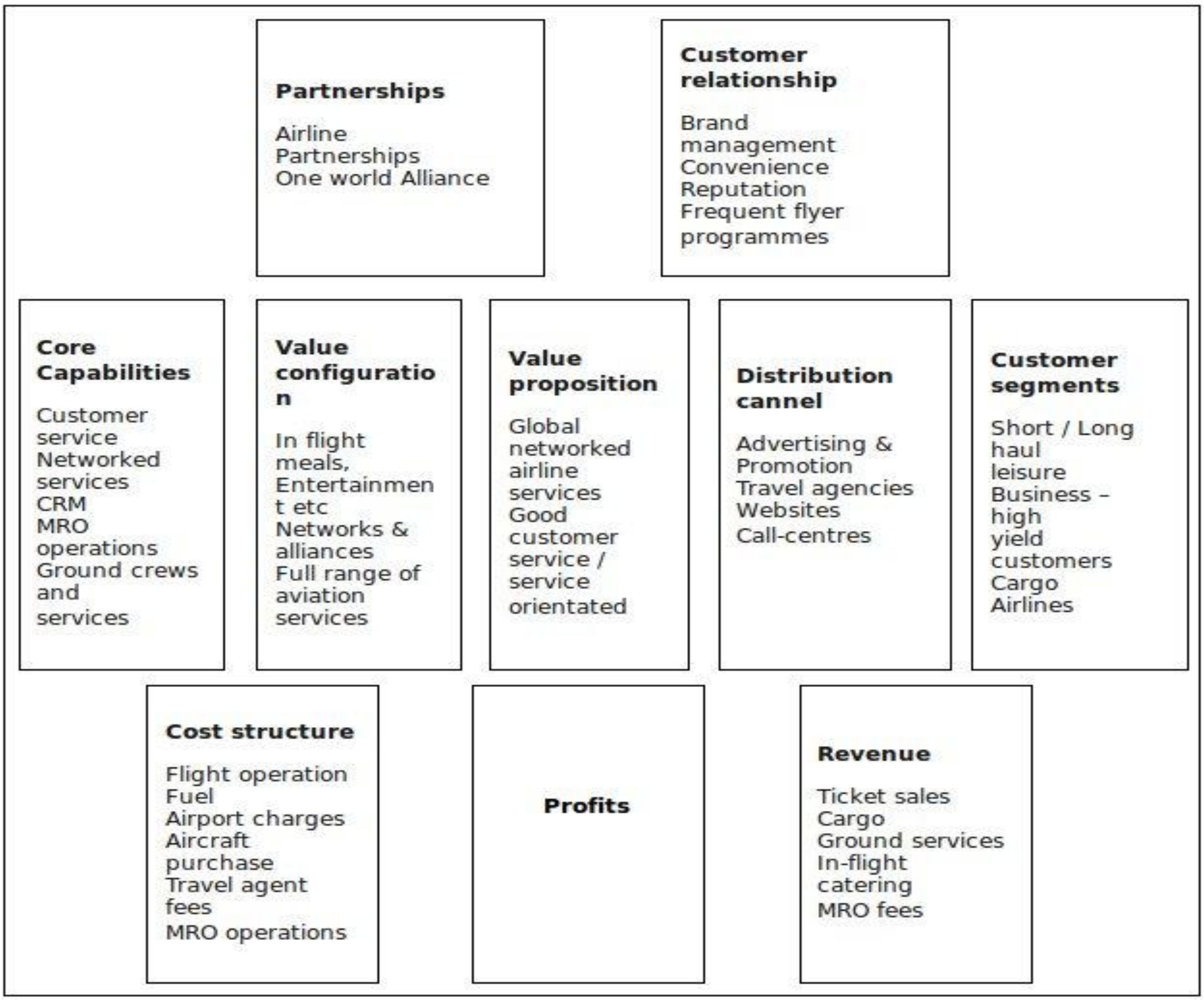


Figure 7: Application of Osterwalder systems model to the BA-Iberia International Airline Group.



4.1 The Swiss-Lufthansa Comparative Analysis

The merger of Swiss International airlines and Lufthansa Passenger airline group can be analyzed in this aspect as the Swiss airlines belong to a traditional airlines business model and the Lufthansa group to that of an airline business group. A comparison of these two business models before merger and also the change of business models just after merger have been done to demonstrate the use of Osterwalder systems model in terms of airline business model analysis across different types of business model. This also will prove that the notion in the industry that airline business models are increasingly difficult to classify in to groups.

The case of Swiss-Lufthansa merger is interesting in terms of a successful merger that had a business model synergy. Our business model analysis of the period just after the merger shows up some interesting facts .In March 22, 2005, Swiss merged with Lufthansa Airlines. Two years before that, Swiss was slowly drifting towards insignificance. The European airline industry was still far too fragmented and needed to consolidate. According to the jointly developed business model, Swiss is to remain a mostly independent airline with its management and seat in Switzerland, its own fleet and crew, managed within the Lufthansa system as a profit center. They started by integrating schedules on the routes between Germany and Switzerland in the winter schedule. This was just the beginning, as they were harmonizing schedules on long-haul routes with Lufthansa and other Star Alliance partners. They also merged the Swiss and Lufthansa frequent flyer programs. The synergies on the cost side where compared and where reduced at a substantive rate. But over the course of the year, Swiss was fully integrated into the Lufthansa hedging program as Swiss did not have a hedging program of its own. It was a service provided to all airlines within the Lufthansa group. Right from the beginning, the merger identified several areas where they could achieve some cost savings through synergies. Financing costs for example as it was obvious that a small, loss-making airline like Swiss can benefit from the financial strength of Lufthansa. These benefits also applied to insurance costs. However, they focused on the customer first as they thought about issues like how to harmonize schedules, how to get better tenders between Germany and Switzerland etc. The second important issue was the frequent flyer program and Swiss discontinued their own program and become a Miles & More member like LOT and Austrian. One of the work groups formed was dealing with the future sales and distribution network as there were two, one for Lufthansa and one for Swiss. They tried to move into the same terminals at airports and use the same counters or at least neighboring counters.. It’s not always easy changing lease contracts and they initially focused on our three hubs. In Zurich, Munich and Frankfurt, the two airlines where under one roof.

Although synergies where identified, the business model analysis can also show areas where different approaches have to be followed as there is no one size fits all solution. You have to deal with different market structures and customer groups, and the merged Swiss and Lufthansa developed typical models. They took the models and looked at which one fits best in a particular market. There may be instances where it makes sense to keep a separate sales force, but it was better to communicate and jointly approach corporate customers. In small markets, it does not make sense to maintain both organizations, so sometimes Lufthansa acted as the general sales agent for Swiss, and vice versa.

In 2010 Lufthansa's full-year result, which included an €8 million ($11 million) operating loss by the Passenger Airline Group, was buoyed slightly by the €93 million operating profit posted by its Swiss International Air Lines subsidiary, the most successful carrier in the LH stable (ATWOnline, March 12, 2010). The Swiss example shows that given the right synergies in the business plan of the merging entities, consolidation can be the right path to follow.

4.2 The Future Airline Business Options by Comparison

As a result of the strategic study, we will arrive at a model where by the effect of M&A on the identified elements of the airline business model are understood. This is supposed to reveal along with the strategic study, the level of flexibility that can be attained on the business model by M&A in the Airline industry.

All the above mentioned studies is expected ultimately to lead to the development of a tool that uses quantitative methods for comparing business models within the perspective of analyzing flexibility requirements in the case of airline mergers. Flexibility options, values the ability to vary a firm’s inputs, output or production methods in response to changes in prices or demand. For instance when a business unit changes the method of production or develops a supply chain management. This valuation method can be used to analyze the flexibility of a business model. The first step in this process is to understand the Aeronautical/Airline business models and find the elements that will stimulate the development of possible future business options. For this, the existing industry standard business models have to be analyzed for their flexibility and determine which factors or elements contribute the most in evolving or sustaining innovativeness.

5. Summary and Conclusions

Although industry transformations generally emanate from technological changes, recent examples suggest they may also be due to the introduction of new business models and nowhere is it more relevant than in the airline industry. In the past, different types of airline business models could be clearly separated from each other. However, this has changed in recent years partly due to the concentration process and partly to reaction caused by competitive pressure. At least it can be concluded that in future the distinction of different business models will remain less clear.

To advance the use of business models as a concept, it is essential to be able to compare and perform analyses to identify the business models that may have the highest potential. This can essentially contribute to understanding the synergies and incompatibilities in the case of two airlines that are going in for a merger. The Osterwalder systems analysis of Swiss Air-Lufthansa merger illustrates this.

As a result of the strategic study, we arrive at a model where by the effect of M&A on the identified elements of the airline business model are understood. But this has to be substantiated in quantitative terms and hence a options approach is necessary and for this, a study has to be done to analyze the M&A in the Airline Industry as a real options application. This is supposed to reveal along with the strategic study, the level of flexibility that can be attained on the business model by M&A in the Airline industry. It's a huge benefit that both sides in a merger look at processes and can learn from each other. If you just merge things without comparing, you may benefit from synergies, but you also miss out on learning opportunities. Further research should be to develop the comparative model using the options approach.

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