

Competing through Strategic Networks: The Ebbs and Flows of a Dynamic System

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ABSTRACT

In many industries, global competition is via networks of strategic alliances. Using the specific case of the Star Alliance in the global airline industry, this study looks at the competitive characteristics of such alliance networks on a longitudinal basis. Alliance networks do not typically stay stable over time, rather, they are shaped by entry and exit of network partners. In large networks, as in the case of the Star Alliance, there is a “first among equals” phenomenon where key members (called nodes) control the entry and exit of other members. Implications are drawn for industry-level competition as well as for industry-level competitive advantage.

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I. INTRODUCTION

Organizational strategic networks were a significant offshoot of the larger movement toward competing via cooperative alliances. While a strategic alliance was primarily a dyad – two organizations that pooled their resources either via an equity or a non-equity relationship – strategic networks emerged as firms saw the advantage of adding other organizations to their relationship. What resulted was a large social structure that could compete as a discrete unit and receive an inimitable competitive advantage by virtue of its numbers. Starting with the technology sector in California’s Silicon Valley and spreading to a host of industries, including biotechnology and airlines, strategic networks became a singular force of nature as business became more globalized with increasing interlinks. Extant research (Buckley and Prashantham, 2016; Zaheer, Gozubuyuk, and Milanov, 2010) has sought to understand how networks form, how they evolve over time, and how they compete. As Zaheer, Gozubuyuk, and Milanov (2010) point out: “...the network approach changes the perspective from an autonomous, self-reliant view of organizational action and outcomes to one that is essentially relational” (p. 62), the importance of studying alliance networks becomes paramount as old notions of competition with industry players give way to new ideas about cooperation.

While the literature on strategic networks is sizeable, relative to their more recent provenance as a unit of competition, there are gaps in what we know about them. The most egregious gap lies in industry specificity. While the information technology and biotechnology industries are young and therefore bereft of legacy issues (principally involving ways to compete), there are industries that have around for a long time where strategies and perspectives on sources of competitive advantage remain well ingrained. The questions then are, where do these industries stand on recognizing the value of strategic networks? Since strategic networks require collaboration among erstwhile competitors, what regulatory environments enable networks to be formed and thrive? Finally, do these networks change their governance style in dynamic environments? Answering these questions become important both from an academic as well as a practitioner perspective. To academia, the contribution of the current study would be to generalize knowledge about strategic networks to a specific industry and examine the robustness of this singular organizational form as a unit of competition. From a practical perspective, practitioners would benefit from a fine-grained examination of what a strategic network is in a specific industry and how adaptation in various aspects of a network influence network performance.

The objective of the current study is to extend our knowledge of strategic alliance networks by examining a specific network – the Star Alliance – in the global airline industry. While its findings are specific to an industry, it extends our extant knowledge of strategic networks by applying it to a specific global alliance. What it yields in generalizability, it makes up in its depth.

The paper is organized as follows: following a review of the strategic alliance network literature, the paper closely examines the genesis, operation, and governance of the Star Alliance by comparing it with its network competitors, OneWorld Alliance and Skyteam Alliance. Conclusions and implications for both theory and practice form the last part of the paper.

II. THE LITERATURE ON STRATEGIC NETWORKS

A. Prior Approaches

The extant literature on strategic alliance networks is marked by a diversity in both its source fields and in its unit of analysis. Since, at its core, a strategic alliance (even at a dyad level) is a social structure, researchers have examined it from the perspective of organizational sociology, political science, organization theory, and strategy (e.g., Buckley and Strange, 2015; Gawer and Cusumano, 2014). In addition, the level of analysis has ranged from the individual firm (as a member of an alliance network) to the interpersonal, group, industry, and country perspective. (as cited in Zaheer, Gozubuyuk, and Milanov, 2010).

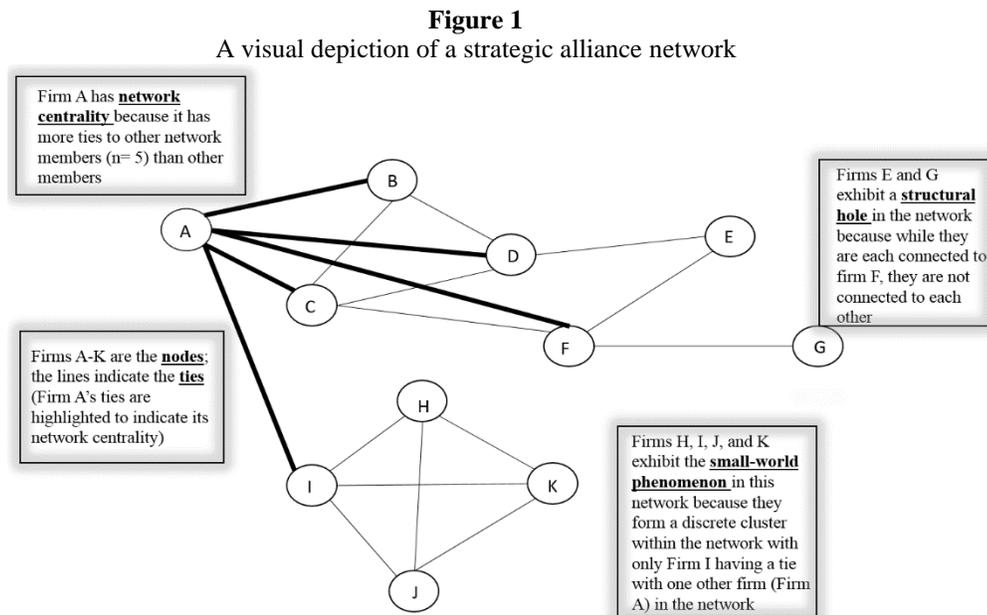
The traditional neoclassical approach to organizations views them as more or less autonomous, self-reliant mechanisms that use their idiosyncratic resource bundle to compete with other solitary organizations with their own distinct set of resources. Per this approach, organization A competed with organizations B, C, D, and others in its industry armed solely with its own resources. Gulati (1999) first and then Gulati, Nohria, and Zaheer (2000) coalesced various arguments from the social network perspective to unify and introduce the relational perspective. Their basic argument was that competition was not always from a dyad perspective (say, United Airlines going up against Delta Airlines), rather that firms often created resource pools and competed through such interfirm networks. In short, they introduced the relational perspective of organizational competition.

Zaheer and Bell (2005) invoked caution to the relational view by making two important points. One was that, network-based competition was not the only way firms competed. In many industries, competition still followed the neoclassical one-on-one approach, but that, network-based competition was more prevalent than hitherto assumed. The second was to suggest that access to a network had both pros and cons for the focal firm. While networks increased the base of accessible resources, networks also constrained its members by both implicit and explicit rules.

The organizations in a strategic alliance network are termed network nodes and the links that bind these members are called network ties (Gulati and Gargiulo, 1999). Members are motivated to form networks to access resources, to engender trust (Beamish and Lupton, 2009), to access power (Bae and Gargiulo, 2004) and be able to better control their destiny, and to signal to the market their organizational legitimacy (Podolny, 2005). Not all relationships within a network are of equal strength. Networks are characterized by strong ties, when the relationship is more than transactional and made more potent by frequent interaction and shared activities, as well as weak ties, where the relationship does not go beyond contractual terms. The same network may exhibit both strong as well as weak ties amongst its members.

Network centrality referred to a player in the network who had many ties with other network members and occupied a position of prestige either as the founder of the network or as the network's central clearinghouse of information (Zaheer, Gozubuyuk, and Milanov, 2010). When a network grew large with the additional of several new players over time, scholars have pointed out that eventually structural holes may appear. A structural hole (Yoo and Kim, 2013) is when two players in a network are connected to a third player but not to each other. Akin to related-linked type of diversification,

networks with several structural holes are typically not as strong as one with fewer structural holes. In fact, the presence of numerous structural holes in a single large strategic alliance network can reveal what extant research has termed the small-world phenomenon (Watts, 1999; Schilling 2009). This happens when smaller individual clusters form within the larger network (Watts, 2003). Figure 1 presents a visual depiction of strategic networks based on the extant literature.



B. Current Perspective

While early research on strategic alliance networks focused on various attributes of the network and their antecedents, subsequent research looked at various metrics related to a network as a single discrete unit. Singular among them was Saxenian's (1994) work on technology networks. Saxenian (1994) compared technology firms in California's Silicon Valley that formed a distinct network with its counterpart in Boston's Route 128. He attributed the more salient outcomes from Silicon Valley not to its network nodes superiority (more members) but to its network ties. To him, Silicon Valley's more extensive and stronger ties amongst its members allowed it to outperform its Boston competitor. His work led to a burgeoning interest in studying the importance of knowledge spillovers in networks (Bell and Zaheer, 2007).

Research on networks as discrete units of competition indicate their impact on innovativeness, market access, division of labor, and overall member performance (Buckley and Prasantham, 2016). While there is considerable convergence on what makes networks important in market competition, there are singular gaps in the extant literature. Key among them, which the current study hopes to shed more light on, are the signaling effects of key entries and exits and the trade-offs that individual firms make when considering entry into a network.

Networks do not stay dormant with respect to its members. Over time, as organizational networks evolve, new members enter while one or more old members exit. It is important to understand the motivations for both entry and departure. It is also important to know what signals, if any, that the network send via such entries and exits, both when these are voluntary as well as when forced. Additionally, as indicated earlier, network membership has both advantages as well as pose constraints on an individual firm's actions. As such, firms consider these trade-offs when considering network entry. Knowing what these trade-offs are and how firms approach them adds to the body of literature on networks.

III. STAR ALLIANCE -- BACKGROUND

One of the effects of the deregulation of the U.S. airline industry was the signing of code-sharing agreements between erstwhile competitors. Code-sharing was an arrangement where one airline markets a flight that is operated by a second airline (Zou and Chen, 2017). By placing its own flight code on the ticket, code-sharing enables the marketing airline to offer a seamless journey to the traveler when flying to a destination not covered by it. Even prior to the deregulation of the European airline industry in 1997, the Netherlands-based KLM formed a codeshare agreement with the U.S.-based Northwest Airlines. When the last set of regulations that governed market access for European Airlines (for example, while Air France could fly to Italy, it was prohibited from flying between two Italian cities) were removed in 1997, industry players saw the need to proactively expand their served market.

Acting quickly to take advantage of deregulation, on May 14, 1997, the Germany-based Lufthansa Airlines and the United States-based United Airlines teamed up with three airlines (Air Canada, Scandinavian Airlines, and Thai Airways) to form the global airlines industry's first strategic alliance network. Unlike the case when KLM invested in the equity of Northwest Airlines to cement the alliance agreement, Star was a non-equity strategic alliance.

While the primary motive for forming the alliance network was code-sharing, other motivations included joint purchasing and maintenance agreements and the ability to offer joint coordinated and joint frequent flyer programs (Lazzarini, 2007). The first code-shared flights were between Air Canada and Scandinavian Airlines in 1997.

At first, Star Alliance was a virtual organization with decisions being made in Los Angeles (in an office owned by United Airlines) and in Frankfurt (owned by Lufthansa). In 2002, a separate legal entity Star Alliance Management GmbH was formed, per German law, and headquartered with 65 employees in Frankfurt. While each alliance member was an equal participant (in terms of voting rights) in the alliance, their role went from operational responsibility to that of an advisory role, since the operational decisions were now made by the alliance staff. The alliance was governed by a Chief Executive Board, which was represented by each member airline.

Airlines entered and exited the alliance over the years. Exits were primarily due to change of ownership (such as when U.S. Airways left the alliance in 2014 due its takeover by American Airlines) or for financial reasons (such as bankruptcy of an airline). Entry required a membership application that required fulfilment of 64 conditions (that included financial stability and avoidance of conflicts with prior commercial agreements) and a comprehensive vetting by the alliance staff. Alliance

members then voted to either include the new airline or keep it out of the alliance. In 2016, Star Alliance had 28 member airlines that together operated 18,500 flights daily to 192 countries and 1,330 airports. The Star Alliance served 640 million passengers annually (Star Alliance website).

The Star Alliance competed globally with other similar airline networks: OneWorld, that was created in 1998 and that included original members American Airlines, British Airways, Qantas, Canadian Airlines and Cathay Pacific and 9 subsequent entrants; and Skyteam Alliance, formed in 2000 by Air France, Delta Airlines, Korean Air, CSA, and Aeromexico. Following its acquisition of Air France, KLM joined the alliance that in 2016 had 20 member airlines (Table 1 profiles the three competing airline alliance networks).

IV. ANALYSIS OF STAR ALLIANCE AS A STRATEGIC NETWORK

A. Benefits from Moving Beyond Tactical Alliances

Congress deregulated the U.S. airline industry in 1978. It took the European Union almost twenty years to follow suit and it was not until 1997 that the last vestiges of regulation were discarded (*The Economist*, 2015). Airlines in both markets exhibited very different approaches to competition in the pre- and post-deregulation periods. Pre-deregulation, the U.S. players were divided into two major categories: one consisted of airlines such as Pan Am and TWA that focused on international destinations. In fact, Pan Am had no domestic U.S. routes, while TWA had very few. In contrast, carriers such as American Airlines and Delta Airlines used the hub-and-spoke system to build a strong domestic route and had no international destinations.

This clear bifurcation worked well in regulated markets with strong entry barriers. Surprisingly, the internationally focused U.S. airlines (Pan Am and TWA) failed to adapt to a deregulated market, while carriers with a strong domestic market expanded to international destinations and succeeded. Airlines such as American and Delta parlayed their extensive domestic routes to expand into, primarily, Europe. To cement their advantage, U.S. carriers sought strategic alliance partners from among European carriers. Given the entry barriers into U.S. because of the well-established routes by domestic players, European carriers were eager alliance partners.

A joint report by the European Commission and the United States Department of Transportation (2010) pointed out that the global alliance strategy by U.S. and European carriers following deregulation in both markets was “rooted in the fundamentals of network economics and a global economy” (p. 3). The primary consumer proposition in an increasingly interconnected world was “from anywhere to everywhere.” Alliances first, and later alliance networks were the most efficient and profitable way to meet consumer expectations regarding global travel.

Alliances in the airline industry can be classified as either tactical alliances or strategic alliances. Interestingly, post deregulation, airlines, on both sides of the Atlantic, perhaps wary of over commitment, started out with tactical alliances, many of which eventually evolved into strategic alliances involving a network of airlines. Code-sharing, interlining, and shared frequent flyer programs are examples of the forms that tactical alliances took. The Star Alliance first, and subsequently, the OneWorld and SkyTeam alliances moved beyond simple tactical dyad combinations of airlines to fully evolved, multilateral cost and revenue sharing strategic competitive platforms.

Table 1
Profile of the leading airline strategic networks

	STAR	ONEWORLD	SKYTEAM
Date Formed	May 14, 1997	February 1, 1999	June 2000
Number of Airlines	28	14 (+ 30 affiliates)	20
Reach	18,500 daily flights 192 countries 1,330 airports 640 million passengers/year	14,000 daily flights 150 plus countries 1,000 + airports 550 million passengers/year	17,343 daily flights 177 countries 1,062 airports 665.4 million passengers/year
Key Entry/Exit	Exit: U.S. Airways and TAM in 2014 Entry: Air India in 2014	Exit: Aer Lingus in 2006 Entry: Japan Airlines in 2006; Mexicana in 2009; Qatar Airways in 2013; TAM (from Star) in 2014	Exit: None Entry: KLM and Continental in 2005; China Southern in 2007
Network Headquarters	Frankfurt, Germany	New York, USA	Amsterdam, Netherlands
Governance Structure	Alliance CEO has 65-person staff; all member's airlines have representative on Chief Executive Board	Alliance CEO has staff of 25; CEOs of all member airlines sit on Board	Alliance chairman named in 2007
Key Features	Members allowed to strike deals with non-members;	Goal is to use American Airlines' SABRE IT network across all members; in 2016, goal is yet to be completed; affiliate members do not have voting rights but benefit from network market coverage; only alliance to have a major middle east airline -- Qatar	KLM did not join until 2005, five years after alliance was established, yet, in 2016 it is one of the dominant players as evidenced by alliance headquarters in Amsterdam; establishing big presence in China

Source: Websites of individual alliances: <http://www.skyteam.com/en/about/history/>; <https://www.oneworld.com/news-information/oneworld-fact-sheets/introduction-to-oneworld>; and http://www.staralliance.com/documents/20184/680657/SCP_Star+Alliance+PDF/c22d550b-6202-477a-8b94-1002b6aec53b.

The major advantage of joining the Star Alliance is access to the five busiest global hubs: Frankfurt (Germany), London-Heathrow (U.K.), Chicago-O'Hare (U.S.A.), Singapore, and Bangkok (Thailand). Together, these hubs accounted for roughly 330 million passengers in 2016. This means that an airline that joins the Star Alliance has immediate access to a sizeable cache of travelers to expand its revenue per passenger mile and market share.

At its core, an airline strategic network alliance enhances the competitive ability of its member airlines. For example, for Lufthansa, membership in the Star Alliance gives it access to the lucrative transatlantic market by enabling passengers from anywhere in

Germany to travel to any city in the U.S. For a traveler in (say) Germany, access to a local Lufthansa flight is essentially his gateway to the world, and often this gateway is a seamless journey throughout the entire trip. This worldwide access enables member airlines to compete not only across alliances but also with those airlines that are not part of an alliance network. One measure of market share in the airline industry is revenue per passenger mile (RPK). Collectively, the three alliances account for a RPK of 61.2%. Star Alliance is the largest of the three alliances, with a RPK of 23%. This means that an airline such as Lufthansa is part of a networked group that accounts for nearly 1 in 4 passenger miles in global air transportation. This translates into greater airport access (landing and boarding gates) for member airlines, and, consequently, increased competitiveness via scale and scope effects.

Network externality plays a key role in making airline strategic alliances dominant. Air India, the flagship state carrier, was invited to join the Star Alliance in 2014. The benefits to Air India were palpable. Membership in the leading alliance was prestigious to the airline that was going through a period of financial struggle. In addition, it would increase the competitiveness of the airline in the lucrative U.S. market by providing access, via partner airlines, to many cities. In turn, Star Alliance was likely to benefit by having as its member the flagship carrier to a large transportation market with a population of 1.3 billion. This virtuous cycle – the entrant helping the network get stronger and the network, in turn, helping the entrant become more competitive – is a prime competitive feature of airline alliances.

Of course, membership in an alliance network has its drawbacks. A member airline can lose its independence and its brand identity. The independence often relates to the routes served and capacity offered. In addition, an airline could see an erosion in its brand identity as the alliance brand is promoted more heavily. Incumbent members may see the free rider problem with respect to branding as new members may enjoy the financial benefits of the strong alliance brand that the incumbents helped develop.

B. Legitimacy and Competitive Preemption

Legitimacy is a compelling motivation to join a network. Legitimacy is conveyed simply by membership, in that, the market assumes that rigorous vetting is a prelude to membership. Turkish Airlines is a good case in point as an example of legitimacy as a motivating factor for alliance membership. From its inception in 1933 till the early years of the 21st Century, Turkish Airlines, 98% of whose equity till an IPO in 2004 was owned by the government, was a small European carrier. Its fortunes were shaped both by Turkey's economy as well as by the European economy. It was not fully able to exploit its distinct geographic presence as the European conduit to Asia. In short, it lacked sufficient international legitimacy. After its IPO in 2004 (and a later public offering) more than 50% of its shares were publicly owned. This prompted the airline to seek growth. At the same time, legitimacy was a key growth impediment, particularly in markets outside Europe. Turkish Airlines sought membership in the Star Alliance to overcome the legitimacy shortfall. Ever since its 2008 membership, the airline has grown to becoming a leading player in global aviation.

In 2016, Turkish Airlines bills itself as the airline serving the most destinations in the world, arguably partly through its own services, and a large part by other member airlines of the Star Alliance network (*The Economist*, 2015). As the examples of Air India

and Turkish Airlines point out, organizational legitimacy is a key attribute that underpins the success of airline alliance networks.

India was Lufthansa's second largest foreign market after the United States. India's diaspora of 30 million coupled with a burgeoning domestic economy made it an attractive airline destination both to fly into and out of its different cities. More than 40 million passengers flow in and out of India in 2011. In 2011, Lufthansa offered 52 weekly flights into seven destinations in the subcontinent. However, it is India market was under attack from Emirates. In 2011, Emirates, the Dubai-based carrier, offered 185 weekly flights to 10 Indian destinations. It held 35% of the India-U.K. market, 40% of the India-France market, 20% of the India-Germany market, and 31% of the India-New York market. It generated \$1.7 billion in revenues from this market (Anonymous, 2014).

At first, Lufthansa attempted various tactical moves to hold on to its market share. It localized the cabin crew, began offering Indian food on flights, and Bollywood movies as part of the in-flight entertainment. None of these moves stemmed the tide of market erosion against the Emirates juggernaut. As a key node in the Star Alliance, Lufthansa hit upon the idea of inviting India's flagship carrier, Air India to join the alliance. The motivation for Lufthansa was to collaborate with an airline that had a comprehensive network in India (as well as significant government travel business, given that it was state owned) to offer seamless travel for many cities in India to various European and North American destinations. In other words, in combination, Lufthansa would be able to approach Emirates' 185 weekly flights in and out of India. The problem was that, in 2011, Air India was a financially troubled airline.

India had two state carriers – Air India for international flights and Indian Airlines for domestic destinations. Indian Airlines merged with Air India in 2011. At the time of Emirates cementing its dominance in the Indian market, Air India was attempting to overcome its own financial weakness as well as managing the merger with its domestic partner. Much to Lufthansa's chagrin, Air India did not meet the financial standards required to become a member of the Star Alliance network. Given the prospect of losing a sizeable part of its lucrative India business, Lufthansa used its centrality in the Star Alliance to lobby for relaxing the standards to enable Air India to become a member.

It succeeded in its efforts, albeit after a 3-year hiatus. In 2014, Air India joined the Star Alliance and helped Lufthansa retain its market share even as Emirates began taking market share away from other airlines operating out of India (Anonymous, 2014). Competitive preemption (in the form of precluding Emirates from increasing its pan-India presence) was facilitated via the alliance network. What Lufthansa could not do on its own (find a willing partner to combat Emirates), it could do via its centrality in the Star Alliance network. Incidentally, British Airways, a member of the OneWorld Alliance finds itself vulnerable in the Indian market, bereft of a local partner to shore up its defenses.

As the examples of Turkish Airlines and Lufthansa indicate, motivation for alliance membership may stem from both offensive and defensive reasons. Offensively, a tangible outcome could be market expansion because of legitimacy. For example, in a crowded Latin American aviation market, an airline such as Avianca could grow simply by joining an alliance. Growth could be via an increased market share in its region and by an increase in annual RPK. Defensively, membership in an alliance network could pose an entry barrier for new entrants, thus protecting an airline's market share in a key market.

C. The Advantages of Strong Ties

The strategic alliance literature has examined the nature of ties in networks (Granovetter, 1984). Clearly, not all ties need to be, or are, of the same strength within a network. In fact, in a large network, all three types – low, medium, and high level of network ties can be usually observed. The strength of a tie is determined by the level of interaction, the reciprocity of interaction, as well as by the various devices used to cement the relationship.

The goal of the founding members of each of the three major airline alliance networks is to deepen the level of cooperation between member airlines. In fact, their hope is to “become effectively indifferent to which plane or ‘metal’ carries a passenger, i.e., to seek ‘metal neutrality’ in the cooperation” (Report, 2010, p. 7). Over time, though, in their bid to increase the size of the network (as to preempt competition, as the Lufthansa example above points out), all three alliances have moved away from insisting on strong ties among its members. Thus, the Star Alliance has high network ties among its three founding airlines – Air Canada, Lufthansa, and United, medium ties among 9 member airlines, and low with the remaining members. This pattern is echoed with the other two airline networks.

In the Star Alliance network, the three founding members – Air Canada, Lufthansa, and United – ensure that have centrality in the alliance. They do this by having strong ties with each other, and having ties (either medium or weak) with all other alliance members. They play a key role in the governance of the alliance, in forming rules for entry and exit, and in seeking potential new members to strengthen the network. It is unlikely that an airline with a medium or a weak tie to other airlines in the network could have influenced the entry of Air India the way Lufthansa did, starting in 2011.

D. Weak Spots in Dynamic Markets

Given that markets are highly dynamic, particularly in a globalized industry such as airlines, alliance networks may not always be bulwarks against competitive encroachment. A key role that members with high network centrality play in governing a network is in plugging “white spots” in the network. In aviation parlance, a “white spot” is an emerging market that is outside the current ambit of the network. A network with multiple white spots is vulnerable to competitive shifts.

The ebb and flow of membership in global alliance networks must factor in both white and black (declining market that warrants exit) spots. There is an inherent trade-off in managing this mix. On the one hand, covering white spots increases the market coverage and competitiveness of the network. Obviously, an alliance with ample coverage of key white spots would be better able to compete as compared to one without such coverage. The flip side of this is the burden of governing an alliance with many members. Arguably, it is far more challenging to govern Star Alliance with its 28 members than OneWorld with its 14 members. The more the members, the greater is the potential for divergence in interests. This means, managing memberships involve addressing the trade-off that comes from increasing network size and diversity.

Starting in 2010, a joint team of the European Commission and the United States Department of Transportation (Report, 2010) identified three white spots in the global airline market. Russia and the newly independent states of the former Soviet Union was

one as well as two key members of the 'BRIC' (an acronym for Brazil, Russia, India, and China) economy – Brazil and India. Russia was attractive because of its large size and the underserved nature of the market, India because of its large size and increase in international travel brought about in the post-1991 economic liberalization period, and Brazil, both as a large market and as a gateway to the South American market. The report also indicated that each of the three networks had a significant white spot. For Star, it was Russia¹, while for SkyTeam it was India, and Brazil for both OneWorld and SkyTeam.

Surprisingly, none of the networks has successfully addressed this white spot lacuna in the ensuing years. This was primarily due to two main actions. One was the proclivity of alliance networks to aggressively offer memberships to airlines to prevent another network to fill its white spot. Thus, Star Alliance was aware that Brazil was a white spot for both OneWorld and SkyTeam and that Avianca Brazil would be a sought-after member. Star offered Avianca Brazil membership in 2014 to close that door for its rival networks. The second was to address the rapid emergence of China as a white spot. China was not identified as a white spot in the 2010 report by the European Commission and the United States Department of Transportation. However, China quickly emerged as a major travel market and the three networks turned their attention to cover it.

One of the success stories of the deregulation of the United States airline industry was the emergence and sustained success of low cost carriers (LCCs) such as Southwest Airlines and Jet Blue. Eschewing the hub-and-spoke business model, LCCs succeeded in using a point-to-point approach and stripping the flight of many of the services that passengers inadvertently paid for in flying conventional carriers. The challenge for airline networks, perhaps their last remaining frontier, is to successfully integrate LCCs into their networks. The incompatibility of the business models has so far resulted in LCCs being left out of networks. Interestingly, Southwest's 2011 acquisition of AirTran expanded its route structure. More importantly, it forced Southwest to operate long-haul flights, a departure for its dominance of short-haul (average of 300 miles) flights for much of its existence. As LCCs (like Southwest) move away from their core business model, alliance networks must examine the possibility of expanding their membership to include them.

V. CONCLUSION

Alliance networks provide an important lens to view competition when it is conducted not on a bilateral, firm-to-firm basis, but as a cohesive nexus of multiple firms operating as a discrete unit and competing with other such firm bundles. Alliance networks can be seen as a special form of the traditional dyadic partnerships between firms. In looking at alliance network activity in the global airline market, one can see how competition is both shaped and conducted in dynamic markets.

Industry deregulation in the two major airline markets of U.S.A. and Europe arguably changed extant perceptions of competition. In a regulated market, efficiency was the key to profitability. Thus, for example, in the regulated U.S. market, an airline such as Delta could have a singular focus on operational efficiency to maintain its profits. It could do this knowing that it had a protected market and that the threat of new entrants was non-existent.

Deregulation removed the entry barriers and the industry become more globalized when Europe deregulated the industry, nearly twenty years after the U.S. did. In a post-deregulated world, Delta, for example, had to have a simultaneous dual focus – one on efficiency and the other on competing in a highly-crowded market. Alliance networks enabled, at first the dominant airlines, and later, the other airlines, to compete as a larger discrete entity to gain market presence and economies of scale.

One key managerial lesson that can be drawn from the study of the Star Alliance is that alliance networks can be used to play offense as well as defense. Turkish Airlines approached alliance network entry from an offensive – market expansion and organizational legitimacy – perspective. It parlayed its membership in the Star Alliance to succeed as an independent publicly owned company, after it untethered itself government ownership. In contrast, Lufthansa used the Star Alliance to play defense. To protect its lucrative India market from the entry of Emirates Airlines, it championed the entry of Air India.

A second managerial lesson has to do with global white spots. Burgeoning travel markets offer tremendous revenue enhancement opportunities. To exploit such opportunities, though, resources are required and very often these opportunities come with substantial risks. Alliance networks alleviate both resource requirements as well as risks. Having said that, the jury is still out on how well airline alliance networks have managed global white spots. Preemption (such as Star Alliance enticing Avianca Brazil to join its network to prevent its networks competitors from filling this white spot) appears to have played a dominant role in largely removing this option. However, given that entry and exit into network alliances are dynamic, networks may still play a role in addressing white spots.

Clearly, the use of a single alliance network in a single industry is a limitation of the study. Generalizability is an issue as practices in the airline industry may not be similar to those in other industries. However, by examining one global alliance network – the Star Alliance – in fine-grained detail, using extant theory as the lens, the current paper adds to the literature on this topic. As indicated above, the study identifies singular managerial lessons as well. In a dynamic business environment, a relational approach to competition may yield benefits and insights that a dyadic approach alone may not.

ENDNOTE

1. While Air India was not a member of the Star Alliance in 2010 (and therefore, India would have been a white spot for Star), the joint report by the European Commission and the United States Department of Transportation took note of the ongoing conversation between Star Alliance and Air India to factor in the possibility of Star Alliance finding an alliance member to address the Indian market. The report felt that SkyTeam had an unaddressed white spot in India because it was an important market for British Airways and it was not in conversation with an Indian airline.

REFERENCES

- Anonymous, 2014, “Air India to Finally Enter the Star Alliance, Lufthansa Now Looks to Escalate Gulf Carrier Rhetoric, *CAPA Centre for Aviation Report*, 5th May.
 Anonymous, 2015, “Super-connecting the World”, *The Economist*, April 25.

- Bae, J., and M. Gargiulo, 2004, "Partner Substitutability, Alliance Network Structure, and Firm Profitability in the Telecommunications Industry," *Academy of Management Journal*, 47(6): 843-859.
- Beamish, P.W., and N.C. Lupton, 2009, "Managing Joint Ventures," *Academy of Management Perspectives*, 23(2): 75-94.
- Bell, G.G., and A. Zaheer, 2007, "Geography, Networks, and Knowledge Flow," *Organization Science*, 18(6): 955-972.
- Buckley, P.J., and S. Prashantham, 2016, "Global Interfirm Networks: The Division of Entrepreneurial Labor between MNEs and SMEs," *Academy of Management Perspectives*, 30(1): 40-58.
- Buckley, P.J., and R. Strange, 2015, "The Governance of the Global Factory: Location and Control of World Economic Activity," *Academy of Management Perspectives*, 29: 237-249.
- Gawer, A., and M.A. Cusumano, 2014, "Industry Platforms and Ecosystem Innovation," *Journal of Product Innovation Management*, 31(3): 417-433.
- Granovetter, M., 1984, "Small is Bountiful: Labor Markets and Establishment Size," *American Sociological Review*, 49(3): 323-334.
- Gulati, R., 1999, "Network Location and Learning: The Influence of Network Resources and Firm Capabilities on Alliance Formation," *Strategic Management Journal*, 20(5): 397-420.
- Gulati, R., and M. Gargiulo, 1999, "Where do Interorganizational Networks Come From?" *American Journal of Sociology*, 104(5): 1439-1453.
- Gulati, R., N. Nohria, and A. Zaheer, 2000, "Strategic Networks," *Strategic Management Journal*, Special Issue, 21(3): 203-215.
- Lazzarini, S.G., 2007, "The Impact of Membership in Competing Alliance Constellations: Evidence on the Operational Performance of Global Airlines," *Strategic Management Journal*, 28: 345-367.
- Podolny, J.M., 2005, *Status Signals: A Sociological Study of Market Competition*. Princeton, NJ: Princeton University Press.
- Report by the European Commission and the United States Department of Transportation, 2010, *Transatlantic Airline Alliances: Competitive Issues and Regulatory Approaches*.
- Saxenian, A., 1994, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
- Schilling, M.A., 2009, "The Global Technology Collaboration Network: Structure, Trends, and Implications," Working Paper, New York University.
- Watts, D.J., 2003, *Six Degrees: The Science of Connected Age*, New York: W.W. Norton & Company.
- Watts, D.J., 1999, *Smalls Worlds: The Dynamics of Networks between Order and Randomness*. Princeton, NJ: Princeton University Press.
- Yoo, J., and W. Kim, 2013, "The Effect of Structural Holes on the Corporate Performance and Strategic Alliances Network in Pharmaceutical Industry," *International Proceedings of Economics Development and Research*, 67(20-24).
- Zaheer, A., and G.G. Bell, 2005, "Benefitting From Network Position: Firm Capabilities, Structural Holes and Performance," *Strategic Management Journal*, 26: 809-825.

- Zaheer, A., R. Gozubuyuk, and H. Milanov, 2010, "It's the Connections: The Network Perspective in Interorganizational Research," *Academy of Management Perspectives*, 24(1): 62-77.
- Zou, L. and X. Chen, 2017, "The Effect of Code-sharing Alliances on Airline Profitability," *Journal of Air Transport Management*, 58: 50-57.