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The Aviation Industry Innovation Projects Challenge – An Industry Review

Mandatory Reading:

The National Air Transport Association (NATA) is a trade organization founded in 1940 with a mission to represent and serve the air transport industry with about 50 member airlines. This organization represents the national carriers of the country and 90% of the domestic air traffic. While NATA members are mainly airline companies, it works with and serves the entire air transport value chain, including airports, civil aviation authorities (regulators), air travel and cargo agents (retailers), as well as aircraft manufacturers to name some of the key players.

Despite the fact NATA's mission focuses primarily on its airline members, its new vision stresses the importance of working across the aviation industry value chain to create economic, environmental and social sustainability for all players, including customers (passengers flying). It also places innovation as a key strategic enabler for the success of its future work in creating value that drives a safe, secure and profitable air transport industry, which connects economies, people and cultures from around the country. The organization's seven core values include innovation, speed and delivering results which highlight the importance of innovation and project delivery for the organization.

The NATA's new organizational structure (created in 2013) is designed as a matrix to include key divisions to serve specific segments of the air transport industry, supported with main regional offices in Montreal for Eastern Canada, in Alberta for Mid-Canada, and in Vancouver for the West Canadian region. It coordinates the work between the divisions and regions through its headquarters in Montreal, Canada that also coordinates the crucial work NATA does with the United Nations Agency for Civil Aviation, known as ICAO. The organizational headquarters is also where the NATA Director General and CEO is based.

This organization represents an industry, which remained almost unchanged in its core business model since its inception a century ago, in 1914, when the first commercial passenger was flown in the US. Moreover, from that date until recent times, the airline business model remained and operated mostly in the same way with tickets being printed and issued, and passengers purchasing them to be transported from point A to point B.

This economically and socially vital industry's economic activities are worth more than 2.4 trillion USD and support 58.1 million jobs and. It represents 3.4% of the national GDP, bridging between cultures, and connecting our country with the rest of the world, but its activities are overly regulated and controlled by the authorities given its impact on national sovereignty. For instance, there is an increase of imposed flying rights and restrictions, and a remarkable national carrier overprotection that blocks natural market access and penetration, as well as expansion in the form of mergers and acquisitions.

With the above in mind, NATA, as the trade organization, has been mandated as well as challenged by its members with to continuously innovate new products and services while making sure there are national projects and programs that drive the implementation of industry-wide change and transformation initiatives across the value chain. This is often reflected in the form of the NATA annual industry priorities. As an example, by looking at NATA's 2015 industry priorities, more than 90% of the priorities are in the shape of national projects and programs that aim to drive transformation and innovation (an example is in the optional reading in Annex A). Therefore, the NATA financial resources and staff are split between, on one end, new product development with the management of industry products and services and, on the other end, program and project management to drive national transformation initiatives across the industry value chain.

Although NATA has successfully driven industry-wide national initiatives in the past using skillful program and project management at its central and regional offices, the challenge was and remains the lack of original thinking and creativity leading to more innovation for the industry. In today's new organizational structure, a central PMO unit is often absent; instead, with the new structure, several projects and program management offices are embedded within their respective divisions.

NATA has always lacked the presence of a think-tank or R&D unit to drive innovation for the industry. There is the exception of a very premature ideation process that is internally focused, with the employees' individual contribution, but this process lacks validation and collaboration with external players, including the NATA members.

Case Question (Round 2):

The new CEO and his management team have contracted a major consulting firm to propose new ways for NATA to be most effective in driving innovation projects for the industry across the country. They want to enhance the organization's ability to innovate effectively (create value) for the air transport sector while strengthening the current project delivery capabilities. The consulting firm proposed the following interventions. Please indicate and expand with supporting arguments which one of them you think will be the most effective for NATA:

Innovation interventions:

- 1) **New Line of Business Matrix: Thinking horizontally to allow the industry to collaborate for better project innovation.** Create a new line of business to challenge NATA's current divisional structure. The new line of business will help NATA to involve other air transport stakeholders (e.g. airports, airlines, or cargo units). The objective is to foster and accelerate the emergence of new ideas and their validation while remaining involved in driving projects across the industry instead of the existing divisional structure that is focused on NATA's own products and services (e.g. consulting, business intelligence, publishing, and other units).

- 2) **Organizational Restructuring: Central development (innovation) and regional delivery (project).** Launch and delivery of an internal restructuring effort named "Sunshine" that will aim to break down NATA into two folds: 1) development, and 2) delivery organization. The center (headquarters) of the organization will be designed to be the lead for innovation and development activities, including new products and services, whereas the regional offices will be assigned the delivery of products and services, including running the industry program and projects for their respective regions. Mostly, NATA will restructure to better serve members and stakeholders - positioning to deliver more value. This move will be made to mainly strengthen innovation by

NATA while maintaining the strength in the program and project delivery nationwide.

- 3) Project management methodology for industry-wide innovation and transformation projects (PMI-NATA).** In an attempt to support the industry to deliver effective and efficient new internal and industry-related innovation projects and programs, the proposal is to create an industry-wide center of excellence for innovative project management in partnership with key experts, such as the Project Management Institute (PMI). The center will have several capability development tools, including training for the industry project managers in innovation and transformation projects, such as in airline acquisition and expansion, airport infrastructure development, and technology projects.
- 4) Strategy execution research for the Air Transport Industry (NATA-Academic Research).** Work with the world's biggest academic institutions with the goal to benefit from the development of newly validated thoughts in both innovation and project management, exploring how both concepts can work together. For example, collaborating with ESG-UQÀM, to review the evolution of the aviation industry value chain, focusing on the business model evolution for airlines (e.g. the introduction of new low-cost carriers) and travel agencies (with the introduction of e-commerce and web booking engines). This strategy pushes to look at how project management and strategy execution could help accelerate innovation in the industry through the effective delivery of new products and services in the marketplace.
- 5) Partnership & Innovation Program (NATA-Partnerships):** A new unit (NATA's Partnership and Innovation Program) will be created with the goal to increase the number of aviation stakeholders from across the country, from every aviation-related area, to work together to bring new ideas that translate through project delivery to new industry products and services for the benefit of all aviation stakeholders.

Annex A - Optional reading:

To illustrate what NATA would like to do (industry innovation projects), we can look closely at one of their earlier successful transformational projects that drove innovation across the industry value chain. The NATA Simplifying-the-Business (SB) program was first launched a decade ago, in 2004, with the key mission to transform the passenger and cargo journey experience through the implementation of innovative solutions. The program, which has evolved throughout the past 11 years, covered several industry-wide projects, such as Fast-Travel (web and e-ticketing, self-check-in in airports, etc.), SMART Airport Security and the New Distribution Capabilities programs that were launched as a direct response to the cost and customer journey integration challenges faced by the industry. To explain how little this area was being innovated, here are the key dates and milestones from the commercial flight inception date until the introduction of the first e-ticket in the US:

- NATA interline manual ticket established: 1970
- Transitional automated ticket (TAT) established: 1991
- NATA creates standard for Neutral Paper Ticket: 1992
- NATA launches Neutral Paper Ticket: 1992
- Automated Ticket & Boarding Pass (ATB) established: 2003
- Electronic Ticket (ET) first introduced: 2004

Although e-ticketing was first introduced in the US in 1994 and was seen as a competitive advantage for those airlines that used it, this method was not used at its full potential. Participating airlines were challenged to interline and connect their passengers when flying to paper ticket countries. This made innovation a real challenge for the early adopters since they had to maintain (for a relatively long transitional time) two operating systems that supported the new e-ticketing while maintaining the paper ticket infrastructure to function in most parts of the country, where the paper ticket was the only ticketing

method. This meant additional costs and customer inconvenience when using two different airlines (defeating the original purpose of this innovation).

The above challenge prompted the airlines to mandate NATA to take the necessary actions to upgrade the infrastructure and implement this innovation across the country. In 1997, the industry issued the first national standard for electronic ticketing to help the different value chain players across the country to better understand what e-ticketing meant and how it could be deployed. This basic national definition helped clarify the concept and reduced some of the misunderstanding and fear factors among some of the value chain players. For example, the travel agents who felt the e-ticket will mean the elimination of their business model that was highly dependent on the issuance and storage of the airline's paper ticket. Another example of change resistance was from the security organizations (mostly part of governments) that are located at the different airports and didn't know how a passenger identity would be validated without a physical paper ticket that was used for centuries at airport security gates.

Even though this NATA-led standardization process with the issuance of the first e-ticket national standard helped in communicating and spreading the understanding of this innovation, it still faced enormous challenges to turn it from a concept in the standard into an actual reality used by all airlines, travel agents and passengers in airports around the country.

This major cross-industry and national complex infrastructure and technology upgrade project resulted in the NATA Board of Governors passing a resolution in 2004 for 100% ET implementation in four years' time from the resolution date. This came almost a decade after this innovation was first introduced in the US in 1994.

The resolution and industry priority resulted in NATA's Director General and CEO back then to form a dedicated SB Program Management Office to



implement the NATA board mandate on full national e-ticketing by the year 2008. The program office was set up intentionally as a separate unit from the traditional NATA divisions (Especially from the NATA distribution and financial services section) to allow for better focus on delivering the required industry-wide transformational result. With this very well defined project timeline, scope and generous budget of about USD 10 million, the PMO work started to roll out in an integrated network based format with central and regional program managers that are supported by national project champions in over 120 countries. This came with a very strong sponsorship from the CEO and close monitoring from the NATA board, which finally resulted with a 100% e-ticket (ET) national implementation by 2008.

This industry innovation, which started as a single initiative by an airline in America in 1994, became a national Canadian reality by 2008. With all passengers flying using e-tickets, eliminating the need of paper tickets, which resulted in massive cost savings for the airline industry. Indeed, the printing and distribution of paper tickets mounted up to 3 billion USD per year, in addition to the noticeable CO2 footprint reduction that was not tracked within the scope of the project. It has also simplified and increased interlining activities between airlines in the different parts of the country (that was traditionally a hefty manual activity), contributing to better market access and revenue mainly thanks to the standard way of implementing ET across the globe.

This innovation had a collateral impact on the industry as a whole. It enabled other major innovations across the aviation value chain like airports who were able to better address their major space challenges by deploying common-use self-service kiosks for easy check-in at airports that allow for shorter processing time. Security was thus able to easily integrate the e-ticket information before the travelers' trip, which, in turn, allowed (in many cases) for faster travel and improved security using advanced profiling and pre-

screening techniques. Airlines also have better market information that is integrated and easy to analyze. Finally, the passengers started to notice the impact of all these innovations when they were enabled to check in from home using airline websites and mobile check-in services, therefore saving valuable travel and waiting time at airports without having the historical hassle to protect and save the paper ticket.

This successful NATA SB-ET innovation project raised the expectation from airlines and air transport players (including the UN agency-ICAO) for NATA to continue to drive innovation and transformational projects across the country. However, with the elimination of a central PMO office in the new NATA structure, and the historical lack of an industry R&D center (and financial resources), the NATA team including its new CEO are challenged to keep up with the momentum that has been created. Therefore, they need to come up with the next big idea that will drive more and bigger innovations in the industry as well as deliver national projects effectively as done in the SB program.