



# The Case of Boeing Sourcing & Vendor Management Excellence Adventure

*By the Academic Team from the University of Tennessee  
Haslam College of Business Administration*



# Innovation in Best Practices: The Case of Boeing

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## Sourcing & vendor management excellence adventure

### A supplier stratification case study

Prior to the award-winning transformation for which Boeing is recognized, the existing Boeing Storage and Backup solution was benchmarked competitive with peer organizations of comparable size, scope, and complexity by an independent third party consultant. However, market conditions threatened the service sustainability. Change was needed to existing IT solutions and Boeing wanted to “Inspire IT”. “Improve IT”. And, “Invent IT” .

How to get there became the question. As Bill Gates once remarked, “If all my bridge coach ever told me was that I was ‘satisfactory’, I would have no hope of ever getting better. How would I know who was best? How would I know what I was doing differently?” Boeing turned to Lawrence Kane, a Boeing Senior Leader for Strategic Sourcing Functional Excellence & First Time Quality, as well as an Industry thought leader for answers. Knowing fresh thinking rarely emerges from old habits and patterns, Kane sought to infuse the workforce with new information and perspective.

Lawrence Kane requested funding (which Boeing approved) to invest in a three year commitment to teach the IAOP Outsourcing Master Class and Governance Workshops to all Sourcing, Vendor Management, and (Indirect Supply Chain) Procurement personnel. A contract with IAOP provided “train the trainer certification” for 7 individuals who would, in turn, reach roughly 350 other Boeing stakeholders. Kane felt confidence in the path chosen, “Boeing has really smart people, but we had inconsistent application and, thus, inconsistent outcomes. We needed to align with industry standards as a baseline from which to improve performance. It became a huge group effort to transform the way we worked.”

Key to Boeing’s ability to maximize supplier synergies was transformation of its approach to outsourcing. Armed with fresh perspectives and a firm belief in what they had learned, the Sourcing team convinced leadership to develop a more results-oriented procurement process and focus on collaboration with key suppliers to move the relationships farther along the value continuum, develop real partnerships, and transform the business. Application of IAOP best practices drove improvements in all phases of outsourcing.

Improvements were made in all aspects of indirect procurement, especially in Information Technology. IT infrastructure is vital to smooth operations, profitability, and reputation of The Boeing Company, so sourcing the work externally needed to not only meet the business need, but also align risk and reward to assure supplier performance and responsiveness. Effectively managing throughout the entire sourcing lifecycle, from strategy through implementation, and leveraging IAOP proven practices was paramount for success.

### Example

*A recent Enterprise Storage and Backup Services outsourcing project is indicative of this progress. These solutions support IT environments worldwide, encompassing over 80 Petabytes of storage, backup, and restoration for mission critical services, including more than 43,000 physical and virtual servers hosting over 5,000 commercial, defense, space, and security applications, and over 100,000 end-user devices which are used by Boeing and supplier employees, customers, and U.S. and allied governments in 150 countries.*



## About the company

Boeing established its presence in the skies in 1916 just in time to provide seaplanes to the United States military during World War 1. When the war ended, Boeing primarily provided air service as a humble mail carrier between Seattle and Victoria, British Columbia and later between Chicago and San Francisco.

But Boeing Founders had a bigger vision. Donald Douglas challenged the company to: “Dream no small dream. It lacks magic. Dream Large. Then make that dream happen.” William Boeing’s challenge was more straight-forward but just as profound: “Build something better.” And so, it began...

Headquartered in Chicago, Illinois, Boeing is now the world’s leading aerospace company. It employs 140,000+ people in 65 countries as well as the United States. Boeing provides products and support services to 150 countries. These include commercial and military aircraft, satellites, weapons, electronic and defense systems, launch systems, advanced information and communication systems, and performance-based logistics and training.

Boeing invests over \$3 billion in research and development annually. Recent innovation examples include the first flights of the 737 MAX 9, 787-10, and T-X, as well as the launch of Boeing AnalytX and Boeing HorizonX.

During its Centennial celebration, Boeing found new ways to invest in the future. Looking ahead to the next century of possibilities, Boeing set sights on the next generation of dreamers, builders and inventors. With resources for parents, teachers, and students, Boeing helps kids get excited about technology and engineering. Accomplishing that today means more innovations, history-making ideas, and inventions that will change the world in the future. Bill Boeing would approve. Continue to “Build something better”.

## The 21st century challenge

The existing storage and backup service was unsustainable. Factors included:

- ◆ **Rapidly Increasing Business Demand:** Global Market Forecast recently reported that, in 2016, passenger air traffic grew 6.3% year after year growth. Indeed, the Forecast suggests air traffic doubles every 15 years, resulting in a demand for 34,900 new aircraft by 2036 (34,170 passenger aircraft and 730 freighters). 40% of passenger aircraft will require replacement and 60% for growth. Asia Pacific will account for 41% of the demand, with the US and Europe together representing 36%. Each product designed and delivered drives massive storage requirements (data is typically stored for the life of the airframe plus twenty years).
  - ◆ **Funding Limitations:** There was a 25% gap between storage and backup demand and available supply. To fulfill that consumer gap required massive resources.
  - ◆ **Global Reach:** Storage and backup services support over 5,000 applications and 100,000 end-user devices supporting Boeing and supplier employees, customers, and U.S. and allied governments in 150 countries.
  - ◆ **Complex, Multi-Sourced Environment:** The existing system used Boeing owned equipment (from multiple original equipment manufacturers) which was supported through a mix of internal and external resources.
  - ◆ **Increasing demand for Storage and Backup:** The Boeing infrastructure supported over 80 Petabytes of rapidly growing storage. “The markets for disk and, more recently, cloud services as backup storage targets are booming. In fact, IDC’s most recent numbers showed the purpose-built backup market -- defined by the analyst firm as standalone HDD-based appliances that serve as backup targets -- growing by 11.5% year-over-year to \$871 million during the second quarter of 2016.”
  - ◆ **Technical Debt:** The storage and backup service requires regular investment in skills and infusions of new technology in order to sustain a viable and robust service offering. This drives a continuous requirement to refresh obsolete equipment.
- Before an appropriate solution could be found, the team evaluated the service and sourcing strategy and identified the case for change. Initially, strategic drivers for change were to contain storage growth, reduce costs, improve cycle times, reduce complexity, and manage technical obsolescence, and free up capital for reinvestment in the business.

## Transforming process: Getting workplace ready for change

It was mentioned earlier that Boeing initially underwrote education to all Sourcing, Vendor Management, and Procurement personnel through IAOP's Outsourcing Master Class and Governance Workshops. However, preparation did not stop there. Sub-optimal tools and processes were replaced with standardized IAOP materials that cover every aspect of the sourcing lifecycle. Processes, including those necessary to assure first time quality, avoid value leakage, apply continuous improvements that reflect industry best practices. And, the three-year journey spread best practice philosophy and process throughout the sourcing environment.

Preparation for transformation of the Boeing Strategic Sourcing & Vendor Management to effectively support IT management aligned with IAOP best practices.

- 1. Defining and Communicating Outsourcing as a Management Practice:** The organization identified how to partner effectively with stakeholders, defined and communicated expectations and roles to standardize the approach to outsourcing, and created a vehicle to explain the value of early engagement. The team maintains a website that communicates information about the organization, the IT Sourcing Strategy, and IT Sourcing Process.
- 2. Developing and Managing an Organization's End-to-End Process for Outsourcing OPS Alignment:** Resources and documentation include a sourcing roadmap, goals, benefits, scope, key process integration, control objectives, critical success factors, policies, specifications, resource process team development, physical flows, work instructions, Procurement Review Board (PRB) checklists, steps for RFQ/RFI/RFP/RFS and SOW development, industry consultation, proposal evaluation, source selection, negotiations, contract award, transition planning, and governance.
- 3. Integrating Outsourcing into an Organization's Business Strategy and Operations:** Strategic Sourcing & Vendor Management integrates with Portfolio Management and embeds within the IT Process Framework, governance gates, and work intake process to identify business needs, strategies, plans, and execution. An end-to-end service management process defines outsourcing methodology, and includes scope, pre-contract planning, contracting, post-contract governance steps, and work.
- 4. Creating, Leading and Sustaining High-Performance Outsourcing Project Teams:** A Responsibility, Accountability, and Authority (RAA) matrix and instructions in the service management process were developed to form outsourcing project teams. Team members with experience supporting IT Infrastructure services were assigned to the Storage and Backup services project. These team leaders identified service owners, delivery managers, technology product managers, technical services teams, Supplier Requirements Engineering, and a procurement agent to support the project. Meetings and workshops were scheduled at each stage of the outsourcing process to review process steps, inputs, outputs, and deliverables to ensure success of the outsourcing activities.

Boeing believes the pre-work and documentation drives functional excellence in all outsourcing activities. The process and associated checklists expedite the procurement effort and assure success for the Storage and Backup Services project. The continuous collaboration infused throughout the process brought significant benefit. Kelly Kujawa, a Portfolio Lead in the Sourcing and Vendor Management organization, explains, "We have a series of gates. It's how we bring folks from a diverse group of constituents together to make sound business decisions around sourcing strategy and execution. Sourcing teams bring in experts like Lawrence who consult with the IT leadership team, Indirect Supply Chain, Finance, and other stakeholders. We also bring in the service owner, enterprise architecture, technology product managers, and folks on the front line to assure that we have a holistic appraisal of what will meet our current and future business needs. Each phase and step in the sourcing lifecycle requires different expertise. The inclusion of so many stakeholders and their diverse perspectives ensures that first time quality is there. And, the ultimate end product meets our strategic needs. You hear the phrase 'It takes a village.' In our case, it's more like a small city."

The team leveraged the established best practices to develop an informed decision. This entailed research, evaluation, and testing the marketplace through a Request for Information (RFI). This helped define the sourcing strategy, which in turn launched the procurement efforts which were executed following the standard IAOP gated process—idea, assessment, implementation, transition, and management.

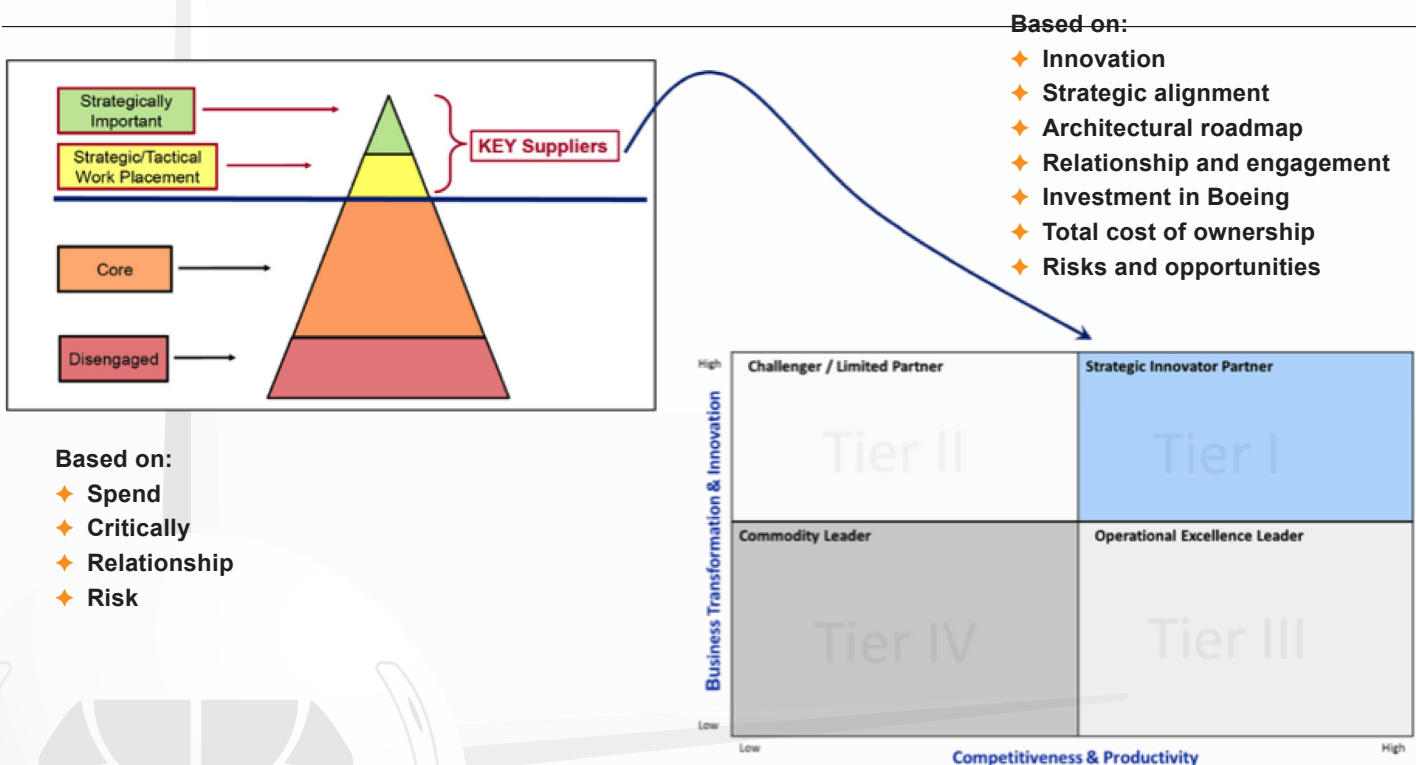
Early in the process, the team found, in regards to available technology, that all of the suppliers rated at technical parity. There was no obvious benefit from one supplier to the next. Therefore, the differentiating factor became the relationship itself. Did Boeing have previous experience and positive rapport with the supplier? Which supplier held the greatest potential for innovative partnership? Who was best aligned to Boeing strategically?

## Significant decisions

Many of the final decisions were made and set into motion as a natural consequence of the preparation process. Boeing knew it wanted a different kind of relationship with strategic partners – one marked by transparency, collaboration, and mutual risk and reward. These values were embedded within the IT process framework and, thus, the new strategies were set.

A major decision was to transition from a CAPEX to an OPEX financial model. (Capital expenditures (CAPEX) and operating expenses (OPEX) represent two basic categories of business expenses. Capital expenditures are the funds that a business uses to purchase major physical goods or services to expand the company’s abilities to generate profits. Operating expenditures result from the ongoing costs a company pays to run its basic business. In contrast to capital expenditures, operating expenses are fully tax-deductible in the year they are made.)

A review of customers revealed a need to change how Boeing perceived key suppliers. Previously, Boeing followed industry consensus that its roughly 35 key suppliers were those with whom it had the greatest spend. Re-examination suggested the primary benefit of separation by spend primarily facilitated ease of changing suppliers, but was not truly strategic. Boeing’s new direction was all about better opportunity and value. In the storage and backup service this meant fewer key suppliers, selecting only those who could truly “move the bar”.



Implementation of an enhanced stratification model introduced the concept of looking at suppliers’ services and technology individually. Those that bring value and innovation are treated differently, aligning the architectural roadmap and allowing greater freedom to get the job done. For instance, providing good laptop computers is important, but that supplier no matter its spend is unlikely to be a strategic innovator partner because end user computing devices are a commodity these days.

## Next step: Due diligence

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Following the recommendations of IAOP best practice, the Sourcing Team did their homework as indicated by the following list.

- ◆ **Solicited bids**
- ◆ **Evaluated proposals** (leveraged due diligence checklist)
- ◆ **Technical** – innovation that meets business drivers
- ◆ **Financial** – total cost of ownership (TCO)
- ◆ **Terms & Conditions** – deal risk optimization
- ◆ **Strategic alignment** – cultural fit, shared vision, investment in Boeing
- ◆ **Validated capabilities and refined supplier stratification**
- ◆ **Developed negotiating plan/playbook**
- ◆ **Socialized results and received approval to negotiate**

Once the preferred supplier was selected, in-depth discovery included site surveys and two-way due diligence to avoid any surprises. The team assured alignment with forward-looking architecture and identified criteria for business value protection. Once negotiation was complete, the deal was approved by both parties, yet the SOW was not actually complete until the discovery process with the supplier was finished. Boeing collaborated with the supplier to write the final version of the SOW, assuring that it met all of the strategy and business drivers that launched the project.

A differentiating criterion for the winning bidder was its expertise in the discovery process and various diligence necessary to assure smooth transitions. The transition from the various incumbents to the new supplier was completed with zero visibility to the Boeing end users. Contributing to the smooth turnover was the fact that the largest incumbent supplier was also another strategic supplier to The Boeing Company. They partnered with the new supplier to create a successful transition, adding great strength to the process. Because of strong relationships amongst these suppliers, there is trust in the ecosystem for fair treatment and more work down the road.

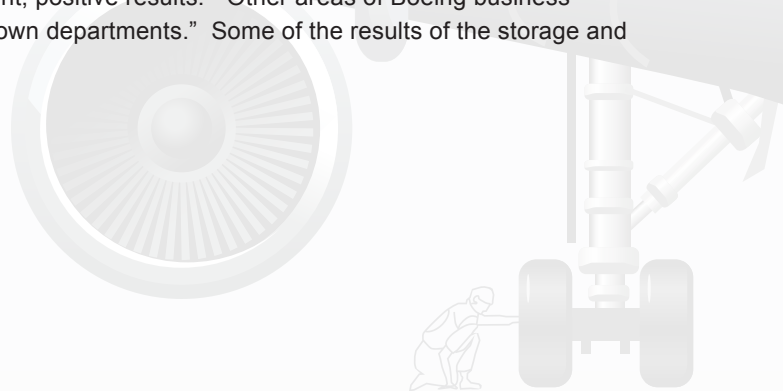
This deal followed the procedures as set up during the workplace preparation with unprecedented uniformity and clarity. Kelly Kujawa speaks to the difference. “Prior to Lawrence Kane’s sourcing program transformation, we would have a supplier Statement of Work (SOW) agreed to and implemented, but no effective governance. The new approach provided tools to manage supplier relationships and get full value. It is a guide to make sure we get what we pay for.” Kujawa adds, “We had one supplier relationship that could have been categorized as ‘challenging’. Using the guidelines to effectively manage partnerships, the relationship turned around and the supplier actually earned prestigious Boeing award recognition last year!”

## Results

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Lawrence Kane is more than satisfied with the results. “I am thrilled that, literally, thousands of people took the new tools and used them to accomplish things that actually matter. What we recently accomplished with the storage and backup service is indicative of what we’re capable of in all areas of strategic sourcing and procurement. By following these improved processes, we do the right things and achieve consistent, positive results.” Other areas of Boeing business have noticed the success and inquiring about transforming their own departments.” Some of the results of the storage and backup case study are listed below.

- ◆ Transitioned from CAPEX to OPEX
- ◆ Reduced the supply base from 5 to 1
- ◆ Improved cycle times up to 50x with agile service delivery



- ◆ Exceeded cost savings target of more than \$100M
- ◆ Remediated significant technical debt
- ◆ Reduced capital commitment and created opportunities for reinvestment
- ◆ Eliminated costs of unallocated storage with consumption-based model
- ◆ Consolidated tool suite from 31 to 10
- ◆ Simplified licensing

Results like this are not uncommon nowadays. In addition to the hard numbers, there are many benefits to the work environment. Significantly, a new Boeing career path has emerged – folks see great opportunity in the field of relationship/partner management. Employees throughout the Sourcing and Vendor Management organization now enjoy communication tools, tip sheets, websites, and roadmaps that cover all aspects of the process. Instead of struggling over how to do a task, talk is now about service improvement and quality.

## Lessons learned

There are key elements that contributed to Boeing's success that can be replicated.

- ◆ ***Boeing achieved sourcing transformation by leveraging IAOP training to adopt proven practices and elevate capabilities.***
- ◆ ***Throughout the process, it was (and is) vital to keep the business drivers firmly in mind.***
- ◆ ***A stratification model identifies the best opportunities and brings clarity.***
- ◆ ***Due diligence must be exercised at each step and follow the gated process.***
- ◆ ***Assure smooth handoffs.***
- ◆ ***And lastly, do a retrospective and incorporate lessons learned for continuous improvement.***

Kelly Kujawa has the last word, "What began as an idea of one smart man spread to thousands and transformed the relationships with many of our strategic suppliers, as well as daily operations. And, it created a whole new career path. My first experience with sourcing was teaching a supplier how to do my job, whereas nowadays I'm working with Boeing and supplier organizations to develop and implement sourcing strategies that make a real difference for both companies. I love my job!"

<sup>1</sup> Brainy Quotes <https://www.brainyquote.com/topics/differently>

<sup>2</sup> WebEX interview January 24, 2018: Lawrence Kane, Kelly, Jeanne Kling

<sup>3</sup> <http://www.boeing.com/boeing100/#/yourstoryisourstory>

<sup>4</sup> Global Market Forecast Growing Horizons 2017-2036 Executive Summary [http://www.airbus.com/content/dam/corporate-topics/publications/backgrounders/Airbus\\_Global\\_Market\\_Forecast\\_2017-2036\\_Growing\\_Horizons\\_full\\_book.pdf](http://www.airbus.com/content/dam/corporate-topics/publications/backgrounders/Airbus_Global_Market_Forecast_2017-2036_Growing_Horizons_full_book.pdf)

<sup>5</sup> Storage magazine: A dozen data storage vendors to watch in 2017: <http://searchdatabackup.techtarget.com/feature/Demand-grows-for-disk-cloud-storage-backup-market>

<sup>6</sup> Ibid #2

<sup>7</sup> What is the difference between CAPEX and OPEX? | Investopedia <https://www.investopedia.com/ask/answers/020915/what-difference-between-capex-and-opex.asp#ixzz5588ssdo7>

<sup>8</sup> Ibid # 2

<sup>9</sup> Ibid #2

<sup>10</sup> Ibid #2

<sup>11</sup> Ibid #2



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