

# Constructing Singapore's National Image through International Air Hub: A Case Study of Changi Airport

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## Abstract

Major international aviation hubs have gained increasing significance as strategic instruments for constructing and projecting national image. This study investigates the construction of Singapore's national image through strategic business narratives, as exemplified by the case of Changi Airport. The goal is to examine the transmission mechanism between business practices and image construction, thereby revealing the underlying strategic relationship between aviation hubs and nation branding. Drawing upon a systematic analysis of Changi Airport's annual reports, this study constructs the Business-Institution-Nation model. This model illustrates how specific business practices underpin the institutional image, thereby systematically backing the national brand. This study not only reconceptualizes aviation hubs as a strategic asset for nation branding, but also offers actionable insights for urban and aviation management.

**Keywords:** National branding, National image, Aviation hub



## 1 Introduction

In the post-pandemic era, the recovery of the global aviation industry has evolved into a contest for national soft power. Major international aviation hubs are no longer mere transport facilities, but they serve as strategic assets and core nodes for nations participating in global competition. Their roles have transformed into important windows for showcasing national governance capability, technological prowess, and cultural heritage. As competition intensifies, traditional “hardware-centric rivalries”—such as the number of runways and terminal floor space—have gradually given way to “competition over experience and image.” Drawing on Simon Anholt’s Nation Branding theory, aviation hubs function as highly internationalized spaces where operational efficiency, architectural aesthetics, and commercial ecosystems directly shape and disseminate the national image. Consequently, leveraging this platform to enhance national soft power has emerged as a critical strategic imperative for city and airport management.

### 1.1 The Status of Changi Airport and Its Exemplary Role as a Vehicle for Singapore’s National Image

Singapore Changi Airport stands as a global benchmark for aviation hub development, holding a uniquely representative and exemplary position in the construction of the national image.

Firstly, renowned for its longstanding reputation as the frequent recipient of the Skytrax “World’s Best Airport” award, the airport’s preeminent industry status serves as a direct embodiment of Singapore’s national ethos of pursuing excellence and efficiency. Secondly, as a strategic lifeline connecting Singapore to the world, the aviation ecosystem centered on Changi contributes over 10% to the national GDP. Its route network, spanning more than 160 cities, epitomizes Singapore’s open image and economic vitality as the “Gateway to Asia.” Finally, there is a profound integration between the airport’s physical space and national characteristics. Serving as a critical node for inbound and outbound travel, it synthesizes the ecological aesthetics of the “Garden City” with the efficient services of the “Smart Nation.” Through its unique spatial experience, the airport directly projects Singapore’s national brand attributes of safety, livability, and innovation, acting as a significant window for the external perception of its soft power.

### 1.2 Theoretical and Practical Significance

By applying Simon Anholt’s “Nation Branding” theory to the distinctive case of an airport hub, this study reveals how national-level strategic assets serve as a “national calling card” by concretizing national brand dimensions through business operations. This enriches the application of the theory within the domain of the aviation sector. More importantly, through the analysis of Changi Airport, this study constructs the Business-Institution-Nation model. This model clearly explicates the logical chain from micro-level business practices to macro-level national image generation, offering a universal analytical framework for understanding how mega-projects contribute to the construction of national soft power. The practical value of this study lies in providing strategic guidance for multiple stakeholders. It inspires national and city managers to systematically plan mega-infrastructure as strategic assets for nation branding. For airport operators, it offers a competitive paradigm that moves beyond traditional efficiency to shape value through experience. It also provides a critical pathway for global aviation hubs in the post-pandemic era to reshape their images and restore confidence by strengthening resilience and enhancing user experience.

### 1.3 Research Questions and Objectives

Based on this research background, this study aims to answer two research questions and formulate two specific research objectives for the subsequent research.

### 1.3.1 Research Questions

Major international aviation hubs are strategic assets that transcend logistics to shape national image. This study aims to explore the following questions through a case study of Singapore Changi Airport.

1. What business strategies construct Changi Airport's identity as a global aviation hub?
2. How does this aviation hub identity project Singapore's national image?

This inquiry encompasses two dimensions. First, focusing on the operational level, it dissects the specific business practices of Changi Airport. Second, elevating to the theoretical level, it explores the logical connection between aviation hubs and nation branding that underpins its image construction process.

### 1.3.2 Specific Research Objectives

To address the research questions, this study establishes the following two specific research objectives:

1. To analyze how Changi Airport's business operations shape its institutional image, revealing the transition from tangible operational procedures to a holistic institutional image.
2. To explicate how this institutional image mirrors and reinforces Singapore's nation brand identity, clarifying the theoretical model by which aviation hub serves the development of national soft power.

To achieve these objectives, the study adheres to a logic that begins with theoretical construction, proceeds to case verification, and culminates in model derivation. By employing literature review, empirical case analysis, and model induction, it analyzes the transmission mechanism from business practices to nation branding.

## 2 Literature Review

### 2.1 The Concept of National Image and Soft Power Competition

National image is, in essence, a subjective perception held by both domestic and foreign publics regarding a country's comprehensive conditions. It encompasses multidimensional evaluations across politics, economy, society, and culture (Sun, 2002). Although rooted in comprehensive national power, national image is not a direct reflection of objective reality, but a product of dynamic construction formed through information dissemination and psychological processing, often resulting in significant differences between domestic and international perceptions (Lin, 2013). This subjectivity and dynamic nature make national image an important element of soft power competition: a positive national image enhances international appeal, affinity, and discourse power, thereby securing cooperation opportunities and public opinion support in the post-pandemic global landscape (Pan and Zhang, 2021).

### 2.2 Nation Branding: Anholt's Six-Dimensional Model

The Nation Brand Hexagon, proposed by Simon Anholt, provides a framework for systematically measuring national image. This model posits that a country's international reputation is jointly shaped by its performance in six interconnected dimensions: Tourism, Exports, Governance, Investment and Immigration, Culture and Heritage, and People. Anholt emphasizes that a strong and coordinated nation brand depends on the balanced development of these dimensions (Anholt, 2016). This framework has become a theoretical cornerstone for nation branding practice, and it is particularly suitable for analyzing the components and weaknesses of national image. However, existing research mostly applies the model to traditional fields such as tourism promotion and commodity exports, and its applicability in emerging contexts like the aviation sector and non-economic carriers needs to be expanded.

This “inside-out” perspective provides a foundation for this study. The operational excellence and non-aviation business success of large-scale aviation hubs are the material embodiment of the concept that a nation is “doing well internally,” and they serve as a powerful nation branding narrative in themselves. Nevertheless, since current studies focus largely on traditional fields, there is a lack of in-depth exploration into how the model explains the transmission mechanism between the “internal actions” of institutional business practices and the dimensions of nation branding.

### 2.3 Diverse Vehicles and Practical Pathways for National Image Construction

Existing research has approached the construction pathways of national image through various vehicles. For instance, international student exchange programs (such as the Global Korea Scholarship) are viewed as “people-oriented” vehicles that influence participants’ perceptions of the host country and their subsequent relationship maintenance behaviors through emotional and cognitive dimensions (Varpahovskis & Ayhan, 2022). At the media level, studies cover diverse forms, including films (e.g., China’s new mainstream movies), short videos (e.g., the “China Travel” series), and traditional cultural narratives, analyzing how they shape specific national images through symbols, narrative frameworks, and emotional resonance (Fu, 2025, Zheng & Xia, 2025). Moreover, research has also focused on textbooks as a specialized vehicle, exploring the educational mechanism of constructing national identity through knowledge logic and value transmission (Zhou, 2025).

However, these studies predominantly concentrate on “soft” carriers such as culture, education, and tourism, or focus on media content itself as the object of analysis. In contrast, there is a lack of in-depth exploration into how physical institutions—specifically aviation hubs that integrate operational efficiency, business vitality, and public services—serve as a comprehensive medium to construct national image. The intrinsic transmission mechanism from “business” to “image” remains underexplored, thereby presenting a distinct entry point for this study.

It is noteworthy that research associating international aviation hubs with national image is still in an early stage, and relevant literature remains relatively limited. Existing studies predominantly present two perspectives: the first focuses on the experiential dimensions of architecture and service—for instance, studies on Malaysian airports indicate that the national identity embodied in the physical environment can enhance passenger enjoyment and satisfaction (Ariffin & Yahaya, 2013, Ali et al., 2016). The second, exemplified by research on Changi Airport, examines it as a landscape of nation-building, exploring how it shapes national identity through a top-down approach (Seng, 2015).

In contrast, research systematically analyzing how airport image transmits to the dimensions of nation branding from the internal perspective of strategic business operations remains largely unexplored. While studies on other transport hubs, such as high-speed rail, have examined their media attributes as “national calling cards” (Li, 2016, Xing, 2024), these cannot substitute for an in-depth analysis of the unique business models of aviation hubs. Therefore, approaching from the lens of “business narratives” to explore the transmission mechanism of this institution—from micro-level practices to macro-level national brand image—constitutes the key innovation of this study.

## 3 Research Design and Methodology

To systematically analyze how Changi Airport constructs national image through business operations, this study establishes an analytical framework comprising three progressive levels:

1. Micro-foundation Level: Identifies strategic business focuses as the fundamental units of image construction.

2.Meso-transmission Level: Examines how diverse business operations integrate to form the institutional image.

3.Macro-objective Level: Applies Anholt's theory to map the institutional image onto Singapore's national brand identity.

This "bottom-up" transmission framework clearly reveals the logical chain from business to nation branding, providing theoretical guidance for the subsequent analysis.

### 3.1 Case Selection and Data Sources

This section outlines the rationale behind the selection of the case study and the specific data sources employed for the empirical analysis.

#### 3.1.1 Rationale for Selecting Changi Airport

This study selects Singapore Changi Airport as the case study due to its representativeness and methodological validity. As a top-tier global hub, Changi Airport consciously integrates business practices (such as the "Jewel Changi" project) with nation brand narratives, making it an ideal sample for empirically examining the Business-Institution-Nation model. Its characteristics clearly map onto Anholt's nation branding theory, providing an excellent point of alignment for verification. Additionally, its official reporting is systematic and authoritative, ensuring high-quality data support for the qualitative analysis.

#### 3.1.2 Rationale for Selecting CEO Statements (2022-2024)

The data for this study consists of the "CEO Statements" from the Annual Reports for the fiscal years 2022-2024. These texts, approved by top management, articulate core strategies and visions in a highly condensed manner, serving as the best entry point for analyzing official narrative intent. Their content naturally bridges "business" and "image," fitting the coding requirements of this study. Selecting texts from the critical recovery period of the post-pandemic era (2022-2024) allows for capturing the latest adjustments in strategic narratives, ensuring the timeliness and practical significance of the research.

### 3.2 Research Methods and Data Analysis Process

This study utilizes NVivo 15 to systematically code and process the texts, ensuring the reliability of the research process. The coding work is divided into two phases, focusing on the business dimension and the image dimension.

#### 3.2.1 Data Coding and Dimension Construction

First, the coding for business dimensions was conducted. The texts of the CEO Statements were manually read line-by-line and analyzed by way of open coding. All statements describing specific practices, activities, and strategies were labeled to generate initial concepts (e.g., Air Hub & Network Development). Subsequently, through multiple rounds of iteration and induction, initial concepts with similar meanings were merged and clustered into higher-level categories. As a result, 9 major business dimensions were identified, comprising a total of 38 initial concepts. To clearly present the overview of the analytical framework, all business dimensions and the most frequently occurring initial concepts are summarized below (Table 1).



Table 1: Summary of Major Business Dimensions and Coding Results

| Major Business Dimensions              | No. of Initial Concepts | Reference Points (Count & %) | Examples of Initial Concepts (Frequency)                                                                     |
|----------------------------------------|-------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------|
| Air Hub & Network Development          | 6                       | 9 (12.3%)                    | Introduction of New Airlines and Routes (2)<br>Export of Operational Expertise through Agreement Signing (3) |
| Commercial & Retail Management         | 9                       | 13 (17.8%)                   | Expansion and Upgrade of Online Retail (2)<br>Introduction of New Brands to Enrich Retail Tenant Mix (2)     |
| Infrastructure Development & Upgrade   | 8                       | 8 (11.0%)                    | Expansion of Airside Taxiway Infrastructure (1)                                                              |
| Passenger Facilitation & Processing    | 8                       | 8 (11.0%)                    | Opening of Passenger Early Check-in System (1)                                                               |
| Smart Operations & Tech Innovation     | 8                       | 8 (11.0%)                    | Application of AR Technology in Airside Maintenance (1)                                                      |
| Safety, Security & Airside Maintenance | 7                       | 7 (10.0%)                    | Upgrade of Multi-functional Rescue Fleet (1)                                                                 |
| Sustainability & Environment           | 7                       | 7 (10.0%)                    | Increase in the Share of Renewable Energy (1)                                                                |
| Lifestyle, Tourism & Community         | 7                       | 7 (10.0%)                    | Operation of Landmark Attractions (1)                                                                        |
| Talent & Organization                  | 6                       | 6 (8.2%)                     | Employee Physical and Mental Well-being Initiatives (1)                                                      |

Subsequently, an identical methodological procedure was applied to the same textual dataset to conduct an independent coding process focused specifically on image dimensions. The primary objective of this phase was to extract the unique institutional traits that the airport strategically seeks to project to its stakeholders. Through a process of iterative synthesis and refinement, six image dimensions were discovered. The comprehensive list of these dimensions, along with the detailed distribution of their underlying concepts, is presented in Table 2 below.

Table 2: Summary of Major Image Dimensions and Coding Results

| Major Image Dimensions   | No. of Initial Concepts | Reference Points (Count & %) | Examples of Initial Concepts (Frequency)                                       |
|--------------------------|-------------------------|------------------------------|--------------------------------------------------------------------------------|
| Commercial Powerhouse    | 10                      | 37 (20.0%)                   | Proactive Retail Manager (4)<br>International Shopping Destination (2)         |
| Global Aviation Hub      | 5                       | 17 (9.2%)                    | Aviation Industry Leader (7)                                                   |
| Operational Excellence   | 10                      | 55 (29.7%)                   | Tech-enabled Future Airport (15)<br>Efficient and Seamless Modern Airport (13) |
| Strategic Leadership     | 10                      | 41 (22.2%)                   | Advocate for Elevating Industry Standards (5)                                  |
| Human-Centric Experience | 5                       | 20 (10.8%)                   | People-oriented Service Provider (11)                                          |
| ESG & Organization       | 6                       | 15 (8.1%)                    | Green and Sustainable Enterprise (6)                                           |

Complete coding schemes for these dimensions are detailed in Tables A.1 and A.2 in Appendix A.

3.2.2 Data Analysis Strategies

This study employs descriptive statistical analysis and matrix relation analysis.

First, descriptive statistical analysis is conducted. This involves calculating the frequency and proportion of sub-dimensions within both business and image categories. The aim is to quantify the relative importance of specific business and image dimensions, offering empirical evidence to answer the research questions.

Second, matrix relation analysis is utilized. This involves constructing a “Business Dimension × Image Dimension” cross-matrix to calculate the frequency of their co-occurrence. This method objectively reveals the transmission paths and strength between business practices and image construction, providing visual evidence for the research findings.

4 Data Analysis

This section presents the empirical findings derived from the systematic coding and analysis of the data. It proceeds by first detailing the descriptive statistics of business and image dimensions, and then elucidating the correlation between them to reveal the underlying transmission mechanism.

4.1 Descriptive Analysis of Business Dimensions: Changi Airport’s Strategic Priorities

This study conducted a systematic coding of CEO Statements from Annual Report content from 2022 to 2024, extracting a total of 73 reference points related to business practices across 9 major business dimensions. Through the statistical analysis and ranking of reference point frequencies, the strategic business priorities of Changi Airport in the post-pandemic era reveal a distinct “three-tiered” structure, as illustrated in Figure 1.

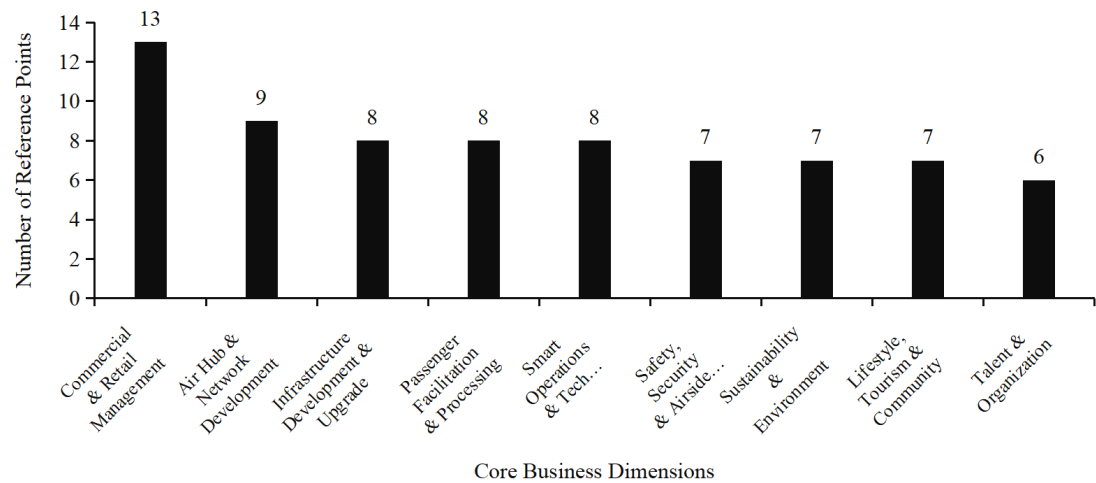


Figure 1: Distribution of Reference Points Across Major Business Dimensions

First Tier: “Commercial Retail & Management” occupies the top spot with 13 reference points, surpassing the runner-up by approximately 44% in quantity. This dimension constitutes Changi Airport’s most prominent narrative core at present.

Second Tier: This tier encompasses “Aviation Hub & Network Expansion” (9), “Infrastructure Development & Upgrade” (8), “Passenger Facilitation & Processing” (8), and “Smart Operations & Tech Innovation” (8). With a relatively balanced distribution, these four dimensions collectively form the four functional pillars underpinning the airport’s high-level operations.



Third Tier: This tier includes “Safety, Security & Airside Maintenance” (7), “Sustainability & Environment” (7), “Lifestyle, Tourism & Community” (7), and “Talent & Organization” (6). Although their frequencies are relatively lower, serving as the underlying logic, they represent the critical cornerstones for maintaining the airport’s long-term competitiveness and brand credibility.

#### *4.1.1 Commercial Achievements as the Primary Narrative Logic*

Data analysis indicates that “Commercial Retail & Management,” with 13 reference points, emerges as the most frequently mentioned and extensively discussed business domain in the CEO Statements. This finding reveals a significant shift in Changi Airport’s strategic discourse in the post-pandemic era: a transition from a purely transport-centric hub to a comprehensive commercial landmark.

Management places the recovery and growth of commercial revenue at the core of the narrative. Through extensive descriptions of leasing initiatives, new brand introductions, and retail technologies, it transmits a signal of transformation from the traditional aviation sector to a high-vitality commercial center. This serves not only as a direct response to external skepticism regarding its viability but also demonstrates the resilience of its business model in the face of shocks.

The high frequency of commercial narratives represents a communication strategy of ‘complementary advantages’ that upholds the major aviation business. Given that Changi Airport consistently ranked among the world’s top airports in Skytrax ratings between 2022 and 2024, its status as a premier aviation hub has been sufficiently validated by external authoritative evaluations, thereby making excessive self-repetition in internal narratives unnecessary. Consequently, management prioritizes the “commercial experience” to establish the dual identity of a “World-Class Hub and Premier Shopping Destination.”

#### *4.1.2 Route Network and Passenger Experience: The Operational Dual Drivers for Consolidating the Hub Foundation*

Closely following the commercial narrative, “Aviation Hub & Network Development” and “Passenger Facilitation & Processing” constitute the second strategic pillar, representing the “hard connectivity” and “soft power” of operations. The former consolidates the hub’s foundation by restoring global connectivity, while the latter exports efficient and reliable service standards through smart clearance.

In essence, these operational dimensions are mutually complementary and jointly reaffirm the airport’s key functions. The extensive route network provides the “breadth” of passenger flow, while seamless smart clearance ensures the “precision” of service. This integration of “breadth” and “precision” not only responds to post-pandemic concerns regarding efficiency and safety but also establishes, at the operational level, Changi Airport’s solid professional reputation and core competitiveness as a world-class hub.

#### *4.1.3 Future-Oriented Investment: Hardware Expansion and Software Innovation*

In the analysis of the third dimension, both “Infrastructure Development & Upgrade” and “Smart Operations & Tech Innovation” garnered 8 reference points, embodying Changi Airport’s balanced investment strategy of “combining hardware and software” when facing future development.

From the perspective of strategic foresight, the simultaneous advancement of these two aspects aims to build the sustainable competitiveness of a next-generation aviation hub. On one hand, continuous investment in hardware is dedicated to breaking through bottlenecks in physical capacity, reserving space for long-term growth in passenger and cargo flows. On the other hand, digital innovation in software strives to push the limits of efficiency, leveraging technological dividends to resolve human resource constraints. This parallel evolution of “physical space expansion” and “digital intelligence empowerment” represents more than mere capital expenditure; it constitutes a strategic reserve for Changi Airport to build a more resilient, agile, and capable “Future-ready Airport.” It serves as the material and technical foundation for maintaining its long-term position as an industry leader.

#### 4.1.4 Value Foundation and Differentiation: Safety Commitment, Ethical Responsibility, and Landmark Shaping

Although the four business dimensions of the third tier are relatively lower in frequency, the close proximity of their reference point counts (6-7) indicates that they hold equal weight as “stabilizers” within the airport’s overall narrative logic. These four sectors collectively sketch the fundamental undertone of the Changi Airport brand, encompassing both essential industry baselines and distinct competitive highlights.

First, “Safety, Security & Airside Maintenance” (7 reference points), as the logical premise of aviation operations, is regarded as a solid operational baseline. While not utilized as a routine marketing hook, its stable presence in the narrative constitutes the most fundamental source of public trust.

Second, “Sustainability & Environment” (7 reference points) and “Talent & Organization” (6 reference points) reflect the ethical responsibility of Changi Airport as a global industry leader. In the post-pandemic era, the commitment to environmental friendliness (ESG) and care for employee well-being are no longer dispensable “add-ons.” Instead, they serve as key indicators measuring the spirit of the social contract of a world-class enterprise, embodying a long-term vision that transcends short-term commercial interests.

Finally, “Lifestyle, Tourism & Community” (7 reference points) warrants special attention. Despite ranking in the third tier statistically, this dimension represents a unique brand highlight that distinguishes Changi Airport from other standardized global hubs. Through the operation of iconic projects like “Jewel Changi” and deep integration with community activities, Changi Airport has successfully redefined its spatial attributes—transforming from a functional “place of passage” into a desirable “destination.” This unique spatial narrative injects an inimitable brand personality into Changi Airport, establishing a distinct identity amidst intense homogenized competition.

## 4.2 Descriptive Analysis of Image Dimensions: Changi Airport’s Image Focus in CEO Narratives

Building upon the coding analysis of business practices, this study further coded the institutional image traits conveyed within the same texts. A total of 185 effective reference points were extracted and categorized into 6 image dimensions. As shown in Figure 2, the distribution of these image dimensions reveals significant variations, clearly outlining the contour of the institutional image that Changi Airport aims to project externally.

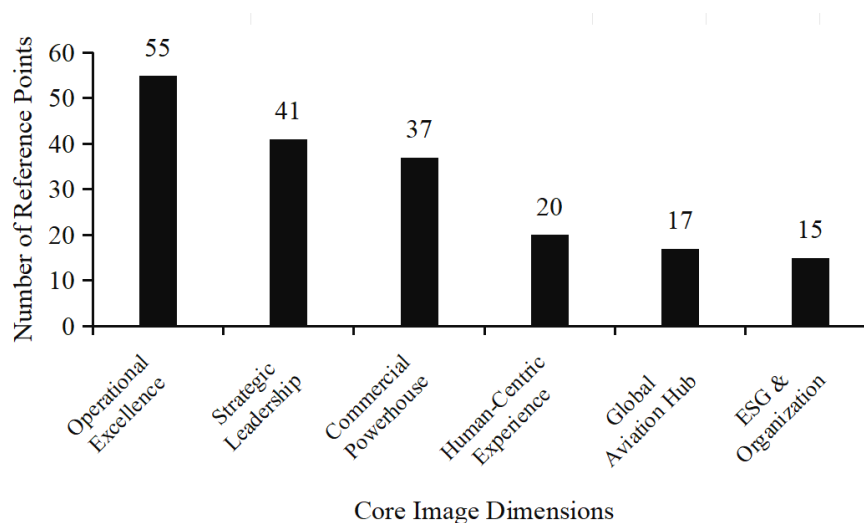


Figure 2: Distribution of Reference Points Across Major Business Dimensions

#### 4.2.1 Cornerstone Image: Operational Excellence

Statistical data indicate that “Operational Excellence,” with a commanding lead of 55 reference points, constitutes the cornerstone of Changi Airport’s image narrative. This dimension is reinforced through multiple specific sub-labels: the high frequency of “Tech-enabled Future Airport” (15) and “Efficient and Seamless Modern Airport” (13) directly shapes technological innovation and operational efficiency as critical competencies.

Meanwhile, the balanced presence of three other labels—“Resilient Operator” (6), “Transparent and Pragmatic Manager” (6), and “Safety-focused Operator” (6)—jointly sculpts an image of an excellent manager that is not only efficient and intelligent but also reliable, credible, and capable of handling crises with composure. This positioning transcends simple functional descriptions, elevating the airport’s daily operations to a display of managerial methodology and wisdom, aiming to earn the deep trust of investors, partners, and passengers.

#### 4.2.2 Stature Image: Strategic Leadership

Following closely is “Strategic Leadership” (41 reference points), a dimension that significantly enhances the stature and strategic elevation of Changi Airport’s image. Through labels such as “Advocate for Elevating Industry Standards” (5) and “Visionary Pursuing Sustained Leadership” (5), the narrative strategy proactively elevates Changi Airport’s role from an “Excellent Operator” to a “Leader” and “Architect” of the global aviation industry.

This signals that the airport is no longer satisfied with merely benchmarking against industry best practices, but it is committed to defining future standards. This grand narrative aims to convey that Changi Airport’s decisions and actions are grounded in profound insights into the future development of the nation and the industry, portraying its success not as accidental, but as the inevitable result of strategic foresight.

#### 4.2.3 Value Image: Commercial Powerhouse

The “Commercial Powerhouse” dimension (37 reference points) corresponds closely to the business dimension of “Commercial & Retail Management.” Image labels such as “Financially Robust Airport” (5) and “Popular Commercial Landmark and Tourist Destination” (4) strongly convey commercial success and economic vitality.

The significant objective of constructing this image is to provide the most intuitive and persuasive proof of value for Changi Airport’s operational excellence. It signals to the outside world that Changi’s “excellence” represents a “profit center” capable of self-sustenance and generating substantial commercial value, thereby solidifying its legitimacy and appeal as a successful national asset.

#### 4.2.4 Image of Warmth: Human-Centric Experience

Complementing the functional narratives of operations and commerce, the “Human-Centric Experience” dimension (20 reference points) contributes a critical service-oriented attribute to Changi Airport’s image. Notably, the reference point for the label “People-oriented Service Provider” (11) is highly prominent, serving as the key to building its friendly and hospitable image.

Although direct references to being a “National Cultural Showcase” are infrequent (1), the overall experience—shaped through landscape design, service details, and community interaction—subtly fulfills this function. This image dimension embodies the soft power that distinguishes Changi Airport from many purely function-oriented hubs, elevating the passenger’s journey from mere physical transit into a delightful humanistic experience.

#### 4.2.5 Fundamental Image: Functional Assurance and Ethical Responsibility

Finally, “Global Aviation Hub” (17 reference points) and “ESG & Organization” (15 reference points) collectively constitute the underlying undertone of the image. The former, representing the airport’s basic function, exists in the narrative as a self-evident fact requiring no excessive emphasis. The latter (ESG and organizational care), having the fewest reference points, may suggest that its narrative construction is still in a developmental stage or was not the primary communication strategy focus during the post-pandemic recovery. However, its stable presence still completes the critical loop of “ethical responsibility” in Changi Airport’s brand image, showcasing its long-term commitment as a corporate citizen.

### 4.3 In-depth Interpretation of the Business-Image Correlation Matrix

Following the establishment of independent dimensions for business and image, this study systematically examined the association between them using the “Matrix Coding Query” function in NVivo. The query results (see Table 3) quantitatively reveal the contribution intensity of different business practices in shaping specific image dimensions.

Table 3: Correlation Matrix between Business and Image Dimensions

|                                         | CP | GAH | OE | SL | HCE | ESG & O |
|-----------------------------------------|----|-----|----|----|-----|---------|
| Air Hub & Network Development           | 0  | 5   | 1  | 6  | 0   | 0       |
| Commercial & Retail Management          | 9  | 0   | 3  | 0  | 4   | 0       |
| Infrastructure Development & Upgrade    | 0  | 4   | 4  | 5  | 1   | 0       |
| Passenger Facilitation & Processing     | 0  | 0   | 6  | 3  | 5   | 0       |
| Smart Operations & Tech Innovation      | 0  | 1   | 7  | 0  | 1   | 0       |
| Safety, Security & Air-side Maintenance | 0  | 0   | 6  | 0  | 0   | 1       |
| Sustainability & Environment            | 0  | 0   | 0  | 4  | 0   | 6       |
| Lifestyle, Tourism & Community          | 4  | 0   | 0  | 0  | 6   | 0       |
| Talent & Organization                   | 0  | 0   | 1  | 0  | 0   | 6       |

<sup>a</sup>CP = Commercial Powerhouse; GAH = Global Aviation Hub; OE = Operational Excellence; SL = Strategic Leadership; HCE = Human-Centric Experience.

Drawing upon Simon Anholt’s Six Dimensions of Nation Branding theory, this section provides an in-depth interpretation of this matrix. It first dissects the internal narrative logic of the airport and subsequently reveals its projection logic onto the nation brand.

#### 4.3.1 Internal Narrative Logic of the Airport: How Business Directly Shapes Airport Image

The quantitative results derived from the matrix analysis provide compelling evidence that Changi Airport’s business narrative does not uniformly underpin every image dimension. Rather, it exhibits a distinct hierarchy and a high degree of strategic focus. By closely examining the specific intersection points with the highest correlation intensity, we can effectively decode the internal mechanism driving its image construction.

The correlation intensity between the “Commercial & Retail Management” business and the “Commercial Powerhouse” image stands at 9, representing the strongest pairing in the matrix. This validates the findings in Section 4.1 and indicates that commercial success serves as the most direct proof of the “Commercial Powerhouse” image. The narrative portrays specific activities—such as introducing new brands and opti-

mizing the tenant mix—to position commercial vitality as the most potent embodiment of the airport’s core value, thereby forging a strong association in the audience’s cognition.

The construction of the “Operational Excellence” image demonstrates a distributed, multi-pillared nature. It not only strongly correlates with expected business dimensions like “Smart Operations & Tech Innovation” (7) and “Passenger Facilitation & Processing” (6) but is also closely linked to the seemingly foundational “Safety, Security & Airside Maintenance” (6). This pattern suggests that in the narrative, “Operational Excellence” is a composite concept: its connotation encompasses efficiency derived from technological innovation while being deeply rooted in the reliability endowed by safety assurance.

Regarding the construction of the “Strategic Leadership” image, a key finding is that the correlation intensity between “Air Hub & Network Development” and “Strategic Leadership” (6) is comparable to, and even slightly higher than, its correlation with “Global Aviation Hub”(5). This indicates that in the CEO’s narrative, specific network expansion actions (such as restoring routes and signing agreements) carry more than just the functional significance of expanding connectivity; they are endowed with the symbolic significance of reflecting the strategic planning capabilities and industry leadership of both the airport and the nation. Business activities thus become the tangible proof of a grand strategy.

#### 4.3.2 Nation Brand Projection Logic: From Airport Image to Singapore’s Nation Brand Construction

Building upon the detailed analysis of the internal narrative logic presented in Section 4.3.1, this subsection shifts the analytical focal point from the meso-level institutional image to the macro-level national identity.

By applying Simon Anholt’s Six Dimensions of Nation Branding theory as a theoretical lens, the study further explicates how Changi Airport’s carefully constructed self-image does not exist in isolation but systematically maps onto and reinforces Singapore’s broader nation brand traits.

Table 4: Mapping Logic between Changi Airport’s Institutional Image and Singapore’s Nation Brand Dimensions

| Changi Airport’s Institutional Image | Mapping Logic                                                                                                                                                                                                 | Reinforced Dimensions of Singapore’s Nation Brand |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| CP                                   | Its success as a premier profit center transcends transport functions, serving as direct proof of Singapore’s commercial vitality, high-end market appeal, and value creation capabilities.                   | Tourism&Investment                                |
| GAH                                  | As a world-class aviation hub, its operation stands as a powerful testament to Singapore’s superior investment climate and capital management capabilities.                                                   | Exports & Investment                              |
| OE                                   | The “Changi Standard” embodies systemic excellence, mirroring both the high-efficiency governance framework supporting operations and the professional competence of the talent executing it.                 | People & Exports                                  |
| SL                                   | Future-oriented strategic planning, crisis resilience, and industry leadership mirror the governance foresight, superior planning capability, and forward-looking global influence of the state.              | Governance                                        |
| HCE                                  | Iconic landscapes like Jewel Changi and seamless service transform airports into cultural landmarks, directly exporting Singapore’s modern aesthetics, innovation, hospitality, and distinct quality of life. | Culture & Tourism                                 |
| ESG & O                              | Deep employee care and ESG commitments reflect Singapore’s interpersonal social equity, cohesion, and humanistic care, alongside a responsible attitude toward shared global issues.                          | Governance & People                               |

<sup>b</sup>CP = Commercial Powerhouse; GAH = Global Aviation Hub; OE = Operational Excellence; SL = Strategic Leadership; HCE = Human-Centric Experience.

This specific “projection logic” is pivotal, as it unveils the underlying mechanism by which large-scale institutions transcend their functional boundaries to serve as strategic agents for nation branding. It demonstrates how tangible operational achievements are effectively transmuted into intangible national soft power. As systematically illustrated in Table 4 below, the six image dimensions of Changi Airport form a clear, robust, and logical correspondence with multiple facets of Singapore’s nation brand, thereby validating the transmission model proposed in this study. Synthesizing the mapping relationships, this study proposes a central theoretical framework: the Business-Institution-Nation model. This model explicates that the construction of a nation brand through aviation hubs operates as a structured, hierarchical transmission process. Specifically, strategic business narratives construct a distinct institutional image, which serves as a critical mediator to project and reinforce abstract nation brand traits.

## 5 DISCUSSION AND IMPLICATIONS

This section synthesizes the empirical findings to construct a theoretical transmission model, and subsequently discusses its broader implications for both academic dialogue and managerial practice.

### 5.1 Research Findings and Theoretical Model Construction

By examining Changi Airport’s strategic narratives, this study reveals that its underlying mechanism of national image construction does not rely on superficial rhetoric but is rooted in a set of highly synergistic substantive business practices. Data analysis indicates that by focusing on major business dimensions—such as “Commercial & Retail Management,” “Passenger Facilitation & Processing,” and “Smart Operations & Tech Innovation”—Changi Airport has successfully shaped distinct institutional images, including “Operational Excellence,” “Strategic Leadership,” and “Commercial Powerhouse.” These images do not exist in isolation, but they are tightly coupled with their business focuses, forming a clear transmission chain.

More importantly, this study finds that on this basis, Changi Airport’s institutional image systematically projects and reinforces Singapore’s nation brand traits. This finding strongly validates Simon Anholt’s Nation Branding theory, confirming that national image can be embodied through excellent specific vehicles.

The most significant theoretical contribution of this study lies in transcending the specific case context to construct the Business-Institution-Nation model from Changi Airport’s successful practices. This model clearly explicates the underlying logic extending from micro-level, manageable business activities to meso-level institutional image, and serving the macro-level construction of the nation brand.

#### 5.2 Theoretical Dialogue and Implications

The transmission model constructed in this study bridges Anholt’s macro-level brand dimensions with micro-level business activities, providing a more granular perspective for understanding the construction of national image. However, its deeper theoretical implication lies in its powerful validation and embodiment of the fundamental paradigm of nation branding—the “Inside-Out” essence.

This model reveals that the positive international reputation enjoyed by Changi Airport is not derived from sophisticated promotional campaigns or rhetorical strategies, but is deeply rooted in a solid business “Substance.” This finding aligns perfectly with the fundamental proposition of Simon Anholt. He insightfully points out that true nation branding is a systematic endeavor requiring a nation to first manage its internal affairs well, aligning actions across all levels (government, enterprises, and people). It necessitates replacing hollow “saying well” with tangible “doing well,” thereby naturally establishing a robust and positive international image (Anholt, 2016).

The case of Changi Airport serves as a perfect exemplification of this philosophy: its operational excellence and service quality inherently constitute the most powerful and credible national narrative. As Anholt

suggests, the pinnacle of nation branding lies in “actions before words.” Its core involves transforming the objective of “shaping a positive image” into the impetus for “driving substantive internal innovation and reform” (Anholt, 2016).

Therefore, the academic value of the Business-Institution-Nation model constructed in this study lies in translating Anholt’s macro philosophical ethos into an actionable and observable analytical framework.

It demonstrates that for national calling cards like strategic assets, brand construction is by no means a mere superficial packaging of image, but a conscious strategic process originating from internal operational excellence. This implies to nation and city managers that effective nation image management must prioritize the creation of Substantive Excellence. Through strategic coordination, achievements should be enabled to “speak for themselves,” articulating an authentic, compelling, and consistent national story (Anholt, 2016).

Consequently, storytelling should serve as a truthful reflection of this excellence; its function is to “amplify” rather than “substitute” the foundational role of business substance. This model also offers an innovative perspective for understanding global hub competition. Future rivalries will not merely center on route networks or commercial facilities, but on the ability of nations to effectively translate and showcase the substantive fruits of national development through windows like aviation hubs. This realization will inspire managers to pivot from pursuing superficial imagery to deepening internal quality, thereby realizing a virtuous cycle of nation brand construction.

### 5.3 Practical Implications: Strategic Recommendations for Changi Airport and Other Hubs

#### 5.3.1 Implications for Changi Airport Management

This study provides critical insights for Changi Airport’s strategic narrative, from which the following optimization paths can be formulated:

First, data analysis validates the correctness of placing “Operational Excellence” at the core of the narrative. It is recommended that Changi Airport further sharpen its “Tech-enabled” label by deepening the full-process application of cutting-edge technologies such as Artificial Intelligence and autonomous systems. This will continuously consolidate its position as an industry benchmark.

Second, the research confirms the successful construction of its “Strategic Leadership” image. It is advised to systematically export the “Changi Standard” and “Changi Solutions.” By exporting mature models of sustainable operations and passenger experience through international forums or consultancy services, the airport can transform its leadership from internal competence into external influence, thereby enhancing Singapore’s discourse power in global aviation governance.

Finally, although the “ESG & Organization” image currently occupies a limited proportion, this presents a distinct strategic opportunity. It is recommended to promote the strategic deep integration of ESG values with key businesses to construct an integrated narrative. This aims to shape a holistic image that is not only efficient but also human-centric, aligning with the higher demands placed on top-tier enterprises in the post-pandemic era.

#### 5.3.2 Implications for Global Aviation Hubs and Region Management

The “transmission model” proposed in this study offers a replicable strategic blueprint for other regions aspiring to enhance their national image through aviation hubs.

It explicitly underscores that when planning and evaluating a hub airport, stakeholders should not merely focus on traditional throughput metrics such as passenger and cargo volumes. Instead, they must consciously align every major business decision with the target nation brand image through synergistic consideration.

Specifically, hubs in different nations can adopt a differentiated focus based on their own comparative advantages. Fundamentally, managers must recognize that an airport is a strategic brand asset of the nation, and its business configuration should serve the higher-level nation brand strategy.

## 6 CONCLUSION

This section summarizes the key research findings and theoretical contributions, while also acknowledging the study's boundaries and offering a final synthesis of its broader implications.

### 6.1 Major Research Findings

Through a comprehensive case analysis of Singapore Changi Airport, this study demonstrates the mechanism by which a major international aviation hub constructs a national image through strategic business narratives. The study set up a clear Business-Institution-Nation model.

This model reveals that the foundation of national image lies in substantive operational excellence. As a “national calling card,” the brand construction of an aviation hub is a systematic “Inside-Out” process originating from solid internal operations, rather than mere image packaging. This finding validates Simon Anholt's core philosophy that nation branding stems from “doing well.”

### 6.2 Major Theoretical Contributions

The primary theoretical contribution of this study lies in successfully bridging macro-level nation branding theory (specifically Anholt's Six Dimensions Model) with micro-level airport business practices, thereby constructing an actionable and observable analytical framework.

This framework provides an innovative perspective for understanding the competition for national soft power, suggesting that the competition for national image is, to some extent, a competition of the capability to provide a tangible manifestation of a nation's internal excellence. It emphasizes the importance of shifting the focus of nation brand strategy from the communication level to the operational level, enriching the application of nation branding theory within the context of non-traditional vehicles.

### 6.3 Research Boundaries and General Implications

Admittedly, the applicability of this study's conclusions is subject to specific contextual boundaries. This research is grounded in the in-depth analysis of the top-tier case of Singapore, a distinctive “City-State.” Its highly synergistic government-enterprise relationship and resource endowments provide an ideal soil for the efficient operation of the transmission model. Therefore, the application effect of this model within more complex national governance structures remains a significant direction for future research. Furthermore, this study primarily adopts the perspective of the narrative constructor. While this clearly reveals strategic intent and transmission logic, it implies that measuring the effects on the image receiver's end constitutes a natural and critical area for future inquiry.

In summary, this study translates Changi Airport's success into a replicable analytical framework. It inspires nation and city managers to view large-scale aviation hub as a strategic brand asset. By forging internal quality through lean operations, they can allow substantive business achievements to “speak for themselves,” thereby narrating a compelling national story.

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## REFERENCES

- Ali, F., Kim, W. G., & Ryu, K. (2016). The effect of physical environment on passenger delight and satisfaction: Moderating effect of national identity. *Tourism Management*, 57, 213-224.
- Anholt, S. (2016). *Places: Identity, image and reputation*. Springer.
- Ariffin, A. A. M., & Yahaya, M. F. (2013). The relationship between airport image, national identity and passengers delight: A case study of the Malaysian low cost carrier terminal (LCCT). *Journal of Air Transport Management*, 31, 33-36.
- Fu, F. D. (2025). Research on the international communication of China's national image: An analysis from the perspective of new mainstream films . *Journal of Chongqing University (Social Sciences Edition)*, 31(05), 131-141.
- Li, W. W. (2016). China high-speed rail brand study from the perspective of national image .[Master's thesis, Huazhong University of Science and Technology]. CNKI.
- Lin, W. J. (2013). A review of research on national image and media . *Today's Media*, (11), 16-19.
- Seo, D. (2021). Articulate design thinking for sustainable airport environment: a case study of Singapore Changi Airport T3. *Transportation Research Procedia*, 56, 136-142.
- Seng, W. W. (2015). Changi Airport as Landscape for Nation-Building.
- Sun, Y. Z. (2002). The connotation and function of national image .*International Forum*, 4(3), 14-21
- Varpahovskis, E., & Ayhan, K. J. (2022). Impact of country image on relationship maintenance: a case study of Korean Government Scholarship Program alumni. *Place Branding and Public Diplomacy*, 18(2), 52-64.
- Xiang, Z. Q., & Li, Y. J. (2025). Narrative transportation of excellent traditional culture in shaping national image: Models, mechanisms, and effects . *Journal of Social Science of Hunan Normal University*, 54(4), 37-46. <https://doi.org/10.19503/j.cnki.1000-2529.2025.04.005>.
- Xing, Y. (2024). The Jakarta Post's news report on the Jakarta-Bandung high-speed railway and the presentation of China's image from the perspective of framing theory . [Master's thesis, Beijing Foreign Studies University]. China National Knowledge Infrastructure. <https://doi.org/10.26962/d.cnki.gb-jwu.2024.000923>.
- Zhang, Y. Q., & Pan, J. L. (2021). The construction and communication of national image . *News Front*, 19, 42-45.
- Zheng, L., & Xia, Q. (2025). "China Travel" short video series and the shaping of China's national image . *Television Research*, (5), 72-75.
- Zhou, K. (2025). Value logic, educational connotation and realization of national image in textbooks. *Curriculum, Teaching Materials and Method* . 45(7), 87-93. <https://doi.org/10.19877/j.cnki.kcje-jf.2025.07.007>.



## A APPENDICES

Table A.1: Detailed Coding Scheme and Evidence for Air Hub & Network Development

| Major Business Dimension      | Sub-dimensions                                                              | Number of Reference Points | Representative Textual Quotes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|-----------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Air Hub & Network Development | Restoration and Expansion of the Route Network                              | 1                          | ...expanding Changi Airport's network to over 150 cities... (Changi Airport Group, 2023-2024, p. 14).                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                               | Introduction of New Airlines and Routes                                     | 2                          | ...welcomed two new passenger airlines... and established new links to India's Bhubaneswar and China's Beijing Daxing Airport, reinforcing our status as a key gateway to the Asia-Pacific region. (Changi Airport Group, 2023-2024, p. 14)<br><br>...expanded our connectivity to 20 new cities and welcomed seven new airlines... with Air Canada's return after more than 30 years re-establishing an important intercontinental link. (Changi Airport Group, 2024-2025, p. 14)                                                                                               |
|                               | Expansion of Cargo Networks and Establishment of Strategic Partnerships     | 1                          | The addition of four new freighter airlines...to bolster air logistics. (Changi Airport Group, 2023-2024, p. 14)                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                               | Supporting Airlines in Introducing New Aircraft Types for Network Expansion | 1                          | Amid a global aircraft shortage, CAG continues to support our airline partners...supported Scoot's launch of its first Embraer E190-E2, adding five more cities to its network. (Changi Airport Group, 2024-2025, p. 15)                                                                                                                                                                                                                                                                                                                                                         |
|                               | Export of Operational Expertise through Agreement Signing                   | 3                          | Leveraging our expertise in airport management, we inked strategic agreements with airports in Angola, Egypt and Vietnam...to foster international route development. (Changi Airport Group, 2023-2024, p. 16)<br><br>During the year, it deepened its foothold in China by entering into two partnership agreements...to manage non-aeronautical business. (Changi Airport Group, 2024-2025, p. 15)<br><br>...made a strong foray into Bhutan by securing advisory projects...in areas such as master planning and project management. (Changi Airport Group, 2024-2025, p. 15) |
|                               | Flight Resumption                                                           | 1                          | ...commercial flight operations resumed...with Firefly reinstating regular scheduled flights to Subang, Malaysia. (Changi Airport Group, 2022-2023, p. 16)                                                                                                                                                                                                                                                                                                                                                                                                                       |



Table A.2: Detailed Coding Scheme and Evidence for Global Aviation Hub

| Major Image Dimension | Sub-dimensions                             | Number of Reference Points | Representative Textual Quotes                                                                                                                                                                                                         |
|-----------------------|--------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Global Aviation Hub   | Professional                               | 1                          | The addition of four new freighter airlines...underscored our commitment to bolstering air logistics. (Changi Airport Group, 2023-2024, p. 14)                                                                                        |
|                       | Global Logistics Hub                       |                            |                                                                                                                                                                                                                                       |
|                       | Aviation Industry Leader                   | 3                          | ...we surpassed pre-Covid levels...emerging as the fifth busiest international airport globally...This recovery underscores our resilience. (Changi Airport Group, 2023-2024, p. 14)                                                  |
|                       | Reliable Cargo Partner                     | 2                          | A new logistics facility...was opened...a truck dock slot booking application was successfully rolled out to reduce waiting times...resulted in more efficient manpower resource allocation. (Changi Airport Group, 2024-2025, p. 16) |
|                       | Busiest Cargo Airport                      | 2                          | ..we handled 1.8 million tonnes of airfreight throughput...placing 12th globally for international cargo traffic and cementing our position as the busiest cargo airport in Southeast Asia. (Changi Airport Group, 2023-2024, p. 14)  |
|                       | High-Capacity Hub with Top-Tier Facilities | 3                          | The expansion added over 21,000 square metres, increasing...capacity to 90 million passengers per annum. (Changi Airport Group, 2023-2024, p. 15)                                                                                     |

<sup>a</sup> Due to space constraints, only representative textual quotes are displayed for each sub-dimension to illustrate the coding process. The “Number of Reference Points” column indicates the total frequency in the full dataset.