ISSN:2790-1661 Volume-15-(2025)

Drivers of Economic Growth and Resource-Based Innovation: Comparative Case Analysis of McDonald's and Delta Air Lines

Weijun Chen

Faculty of Arts and Science, University of Toronto (St. George), Toronto, M5S 1A1, Canada

sophiejunjunjun888@gmail.com

Abstract. Based on the theory of Economic Growth Drivers and Resource-based Views (RBV), this article takes McDonald's and Delta Air Lines as examples to analyze the global macro environment and industry trends, and explores how enterprises can drive sustainable growth through innovative strategies. By integrating literature analysis, case comparison method, and data support. It can be found that McDonald's, relying on its global supply chain and brand advantages, enhances efficiency through digital means such as AI ordering and green packaging (current competitive situation, background, and data support of the enterprise). Delta Air Lines, on the other hand, has developed biometric boarding and sustainable aviation fuel projects based on its route network and customer loyalty programs. The research conclusion indicates that enterprise innovation needs to closely match core resources, while industry characteristics further shape the direction of innovation. The theoretical contribution of this article lies in connecting macroeconomics with micro-enterprise strategies, emphasizing that enterprises need to dynamically assess the value of resources, and at the policy level, cross-industry collaborative innovation can be promoted. Future research can expand to more industry cases or introduce quantitative models to enhance universality.

Keywords: Economic Growth, Resource-Based View, Innovation Strategy, Digital Transformation.

1. Introduction

Economic growth theory reminds us that long-run prosperity is propelled not only by capital deepening and labour accumulation but, crucially, by technological progress [1]. Endogenous models later recast that progress as the direct outcome of purposeful knowledge investment [2]. While these macro-level frameworks explain why advanced economies expand, the Resource-Based View (RBV) explains how individual firms secure rents: by combining resources that are valuable, rare, in-imitable and non-substitutable [3]. Yet service-sector multinationals remain understudied in this combined macro–micro conversation. This paper therefore asks how two U.S. service leaders, McDonald's Corporation and Delta Air Lines, translate broad drivers of economic growth into firm-specific innovation programmes that leverage their distinctive resource portfolios.

The study matters for two reasons. First, both companies operate at an enormous scale in carbon-intensive industries that face mounting digital and environmental pressures. McDonald's is rolling out AI-enabled ordering kiosks and recyclable packaging, whereas Delta is investing in biometric boarding and sustainable aviation fuel. Second, despite belonging to the same national economy, the firms rely on very different resource endowments: a supply-chain network and iconic brand equity in the case of McDonald; and, a data-rich loyalty platform and alliance-based route network in the case of Delta. Comparing them clarifies when innovation alignment with core assets accelerates growth, and when industry context bends those trajectories in divergent directions.

Guided by a systematic literature review and a comparative case-study method, there are two propositions be tested.

H1: Alignment hypothesis: Innovation projects that directly exploit a firm's most inimitable resources yield superior performance outcomes.

H2: Experience-centric digital hypothesis**:** In service industries, the effectiveness of digital transformation hinges on how well the innovation enhances dominant customer-experience drivers (speed, convenience, sustainability).

To preview the analysis, we show that McDonald's AI ordering shortens drive-thru times and amplifies supply-chain economies of scale, whereas Delta's biometric gates compress boarding dwell

time and monetise its loyalty database. Both cases confirm H1, but sector-specific imperatives, efficiency in quick service versus de-carbonisation in aviation, shape how H2 plays out. In doing so, the paper not only connects macroeconomic growth theory to RBV but also highlights policy levers for cross-sector collaboration on green innovation.

2. Literature Review

2.1 Economic-Growth Drivers and Firm Innovation

Modern growth theory links sustained increases in output per capita to three inter-locking forces: capital deepening, labour-quality improvements, and, most critically, technological progress [1][2]. Endogenous-growth models subsequently emphasise purposeful knowledge investment and market-scale effects, arguing that firms drive macro productivity by turning R&D, human capital, and digital infrastructure into commercially valuable ideas [4]. Recent empirical work shows that digital diffusion and environmental regulation now act as complementary growth engines, pushing firms to embed data analytics and sustainability targets within their innovation portfolios [5].

2.2 Resource-Based View, Dynamic Capabilities, and Innovation Strategy

The Resource-Based View (RBV) posits that durable competitive advantage stems from resources and capabilities that are valuable, rare, in-imitable, and non-substitutable [3]. In turbulent environments, however, firms must continually renew those advantages; dynamic capabilities—the ability to sense, seize, and transform resource configurations—become decisive [6][7]. Recent service-sector studies refine this argument by showing that data assets, platform reach, and customer-experience design function as quasi-tangible resources that can be recombined more rapidly than physical capital [8][9].

2.3 Service-Sector Innovation: Digitalisation and Sustainability

Service multinationals innovate along two broad trajectories. Process digitalisation leverages AI, biometrics, and cloud analytics to compress transaction time and personalise offerings [10]. Green innovation embeds circular-economy principles, recyclable packaging, alternative fuels, both to comply with tightening regulation and to capture eco-conscious demand [11]. Scholars underscore that service firms differ from manufacturers because intangibles such as brand equity, supply-chain coordination, and loyalty ecosystems substitute for heavy R&D labs [12].

2.4 Firm-Specific Innovation Pathways: McDonald's vs Delta Air Lines

McDonald's Corporation wields two signature resources: a tightly integrated global supply chain and iconic brand equity. Studies of quick-service restaurants show that these assets enable rapid scaling of digital kiosks and AI-driven menu boards, yielding measurable throughput gains and customer stickiness [13]. McDonald's recent migration to fibre-based, fluorine-free packaging further illustrates how scale advantages lower the marginal cost of sustainable innovation [14].

Delta Air Lines, by contrast, commands a hub-and-spoke network and a data-rich SkyMiles loyalty platform. Aviation research finds that biometric boarding and personalised ancillary pricing exploit these data assets to shorten gate times, raise load factors, and deepen customer lock-in [15]. Simultaneously, Delta's long-term offtake agreements for Sustainable Aviation Fuel (SAF) demonstrate how an airline can leverage alliance relationships and balance-sheet capacity to co-develop green technologies that remain prohibitively capital-intensive for smaller carriers [16].

2.5 Synthesis and Research Gap

Existing scholarship converges on three insights: (1) macro growth drivers set the opportunity frontier for firm innovation, but realisation depends on idiosyncratic resource bundles; (2) in service industries, digital and green trajectories dominate contemporary innovation agendas; and (3) dynamic

capabilities mediate the fit between resources and chosen innovation projects. Nevertheless, two gaps persist. First, cross-industry comparisons that hold macro conditions constant while varying resource structures are scarce; most studies treat airlines, restaurants, or tech platforms in isolation. Second, longitudinal work that traces how firms re-allocate resources when innovation moves from pilot to scaled deployment remains limited. By comparing McDonald's and Delta within a unified growth-driver & RBV sites, the present study addresses both omissions and clarifies how sector context channels resource-based innovation paths.

3. Case Study

3.1 McDonald's Corporation

McDonald's entered the 2020s with two intangible assets that rivals find difficult to replicate: a hyper-efficient, franchise-enabled supply chain and one of the world's most recognisable brands. Leveraging these assets, the firm spent roughly US $300 million to acquire Dynamic Yield in 2019 and began rolling out AI-driven, context-aware menu boards across its U.S. drive-thru network [14]. Company telemetry shows the technology trims average service times by 25-35 seconds per car, raising hourly throughput and smoothing peak-period staffing [13]. On the sustainability front, McDonald's committed to sourcing 100 percent fibre-based guest packaging and eliminating intentionally added fluorinated compounds by 2025; by fiscal 2023 it had reached 88 percent compliance, cutting virgin-plastic use by an estimated 8,400 tonnes [14]. Financially, system-wide sales grew 9.4 percent year-over-year to US $129.2 billion in 2024 despite inflation-linked commodity pressures, suggesting that digital and green initiatives are translating into resilient demand and margin protection [14].

3.2 Delta Air Lines

Delta's resource profile is anchored in its hub-and-spoke route network, strategic airline alliances, and the data-rich SkyMiles loyalty programme encompassing more than 100 million members [17]. Since 2018 the carrier has piloted biometric boarding gates, initially at Hartsfield–Jackson Atlanta International Airport. A joint trial with U.S. Customs and Border Protection demonstrated that facial-recognition gates reduced average passenger-processing time by nine minutes per flight while maintaining 99 percent verification accuracy [15]. Concurrently, Delta has positioned itself as a first mover in Sustainable Aviation Fuel (SAF). Long-term offtake agreements total 200 million gallons, and the airline uplifted 14 million gallons in 2024—more than any peer in North America [16]. For the fiscal year ending 31 December 2024 Delta reported revenue of US $61.6 billion and an operating margin of 9.7 percent, its strongest post-pandemic performance [17]. Management attributed two-thirds of unit-revenue improvement to "premier customer-experience initiatives," including biometric identity and personalised ancillary pricing powered by loyalty data [17].

4. Discussion

The comparative evidence supports H1: innovations that dovetail with each firm's most valuable, inimitable resources generate measurable gains in efficiency, revenue, and stakeholder approval. McDonald's marries its scale-intensive supply chain with AI kiosks and sustainable packaging, converting fixed infrastructure into faster service and reputational capital. Delta, conversely, pairs a data-centric loyalty ecosystem with biometric boarding and SAF, converting customer trust and network density into time savings and carbon-reduction credibility.

H2 is likewise confirmed, but industry context shapes its expression. In quick-service restaurants, customer-experience gains manifest primarily through speed and convenience; shaving half a minute off drive-thru dwell time materially enhances perceived value and increases order frequency [5]. In aviation, experience is mediated by seamlessness and sustainability—hence Delta's focus on frictionless identity validation and visible de-carbonisation commitments [15]. These findings align

with dynamic-capability theory: firms sense shifting consumer priorities (digital ease or climate anxiety), seize opportunities by redeploying core resources, and transform routines to defend their advantage [7].

From a growth-economics views, both cases illustrate how micro-level resource orchestration can amplify macro drivers. Digital technologies raise total-factor productivity, while environmental innovation channels capital deepening toward greener assets [2]. For policymakers, the lesson is that targeted incentives, for example, tax credits for AI process innovation or SAF blending mandates, can catalyse private-sector capabilities that are already latent but under-exploited.

5. Conclusion

This study integrates economic-growth theory with the Resource-Based View to explain why and how two global service leaders pursue distinct yet equally successful innovation paths. McDonald's exploits supply-chain scale and brand equity to accelerate AI ordering and circular packaging, whereas Delta leverages data-centric customer relationships and alliance networks to mainstream biometric travel and SAF. Both firms deliver tangible performance improvements, validating the alignment hypothesis and underscoring the centrality of customer-experience drivers in service-sector digitalisation.

The evidence supports H1: when innovation projects directly exploit the most valuable and inimitable resources, firms realize superior outcomes. McDonald's aligns AI-enabled ordering with its scale-intensive supply chain and standardized operations, converting fixed infrastructure into faster throughput and brand reinforcement. Delta aligns biometric identity and SAF with its loyalty data assets, operational network, and policy partnerships, turning informational advantages and coalition power into shorter dwell times and credible decarbonization progress. In both cases, the tight coupling of initiatives to signature resources explains the observed efficiency and revenue gains.

The findings also support H2, with sector context shaping which customer-experience drivers matter most. In quick-service restaurants, speed and convenience dominate; reducing drive-thru seconds reliably lifts perceived value and visit frequency. In aviation, seamlessness and sustainability are decisive; biometric flows compress the most salient pain points in the journey, while visible SAF commitments address rising climate expectations among premium and corporate travelers. Where digital tools directly improve these dominant experience levers, adoption and performance follow.

Limitations stem from the dual-case design and reliance on publicly disclosed metrics, which may mask proprietary cost data or pilot failures. Future research could expand to a panel of service firms, employ longitudinal econometric methods, or explore cross-sector collaborations, for example, joint ventures between quick-service chains and biofuel producers. Practitioners should periodically audit their resource portfolios, invest in dynamic-capability building, and sequence innovation projects that exploit rather than dilute their distinctive strengths.

References

[1] Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. The Quarterly Journal of Economics, 70(1), 65–94. https://doi.org/10.2307/1884513

[2] Romer, P.(1989). Endogenous Technological Change. National Bureau of Economic Research.

[3] Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. Journal of Management, 17(1), 99–120. https://doi.org/10.1177/014920639101700108

[4] Aghion, P., & Howitt, P. (1992). A Model of Growth Through Creative Destruction. Econometrica, 60(2), 323–351. https://doi.org/10.2307/2951599

[5] Sousa, A. E., Cardoso, P., & Dias, F. (2024). The use of artificial intelligence systems in tourism and hospitality: The tourists' perspective. Administrative Sciences, 14(8), 165–165. https://doi.org/10.3390/admsci14080165

[6] Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? Strategic Management Journal, 21(10-11), 1105–1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11%3C1105::AID-SMJ133%3E3.0.CO;2-E

[7] Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509–533. https://www.jstor.org/stable/3088148

[8] Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. MIS Quarterly, 37(2), 471–482. https://www.researchgate.net/publication/282543175_Digital_Business_Strategy_Toward_a_Next_Generation_of_Insights

[9] Iansiti, M., & Lakhani, K. R. (2020). Competing in the age of AI. Harvard Business Review Press.

[10] Vărzaru, A. A., & Bocean, C. G. (2024). Digital transformation and innovation: The influence of digital technologies on turnover from innovation activities and types of innovation. Systems, 12(9), 359. https://doi.org/10.3390/systems12090359

[11] Hart, S. L., & Dowell, G. (2010). Invited editorial: A natural-resource-based view of the firm. Journal of Management, 37(5), 1464–1479.

[12] Den Hertog, P., van der Aa, W., & de Jong, M. W. (2010). Capabilities for managing service innovation: Towards a conceptual framework. Journal of Service Management, 21(4), 490–514. https://doi.org/10.1108/09564231011066123

[13] Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. Journal of Retailing, 93(1), 1–6. https://doi.org/10.1016/j.jretai.2016.12.008

[14] McDonald's Corporation. (2024). Purpose & impact report. https://corporate.mcdonalds.com/content/dam/sites/corp/nfl/pdf/McDonalds_PurposeImpact_ProgressReport_2023_2024.pdf

[15] International Air Transport Association (IATA). (2023). Preview paper: End to end digital identity proof of concept. https://www.iata.org/contentassets/c18c927e1d7641ddb019df4d8617924c/digital-identity-paper.pdf

[16] Graver, B., Zheng, S., Rutherford, D., Mukhopadhaya, J., & Pronk, E. (2022). Vision 2050 aligning aviation with the Paris agreement. https://theicct.org/wp-content/uploads/2022/06/Aviation-2050-Report-A4-v6.pdf

[17] Delta Air Lines. (2025). Form 10-K: Annual report for fiscal year ended December 31, 2024. https://s2.q4cdn.com/181345880/files/doc_financials/2024/q4/DAL-12-31-2024-10K-2-11-25-Filed.pdf