The Transition to Subscription-Based Business Models – A case of Cisco

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Dissertação realizada sob a orientação do Professor Pedro Celeste

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Abstract

In recent years, the global technology industry has witnessed a paradigm shift from traditional transaction-based models to subscription-based business models, like Software-as-a-Service (SaaS), driven by advancements in digital transformation, cloud computing, and customer demand for flexible, scalable solutions. This transition has fundamentally reshaped how companies generate revenue, build customer relationships, and maintain competitive advantage. Cisco, a global leader in networking, software, and security solutions, represents a compelling case study of this transformative shift.

This thesis aims to understand the key success factors, common barriers, and industry perceptions in order to help companies navigate this transition while ensuring long-term sustainable recurring revenue growth and competitiveness in the digital economy. Through a survey targeting professionals in the technology sector, whose answers were anonymous, it seeks to uncover perceptions, best practices, and barriers that characterize this shift.

Keywords

Subscription-Based Business Models; Recurring Revenue Strategies; Organizational Transformation; Business Model Innovation; Software-as-a-Service; Digital Transformation; Cisco.

Resumo

Nos últimos anos, a indústria global de tecnologia testemunhou uma mudança de paradigma, de modelos tradicionais baseados em transações para modelos de negócios baseados em subscrições, como Software como Serviço (SaaS), impulsionada pelos avanços na transformação digital, computação em nuvem e procura dos clientes de soluções flexíveis e escaláveis. Essa transição remodelou fundamentalmente a forma como as empresas geram receita, constroem relacionamentos com clientes e mantêm vantagem competitiva. A Cisco, líder global em soluções de rede, software e segurança, representa um caso de estudo convincente dessa mudança transformadora.

Esta tese visa compreender os principais fatores de sucesso, as barreiras comuns e as percepções do setor, a fim de ajudar as empresas a navegar nessa transição, garantindo, ao mesmo tempo, o crescimento sustentável da receita recorrente e a competitividade na economia digital. Por meio de uma pesquisa direcionada a profissionais do setor de tecnologia, cujas respostas foram anónimas, busca-se descobrir percepções, melhores práticas e barreiras que caracterizam essa mudança.

Palavras-chave

Modelos de Negócios Baseados em Subscrições; Estratégias de Receita Recorrente; Transformação Organizacional; Inovação em Modelos de Negócios; Software como Serviço; Transformação Digital; Cisco.

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Acronyms

DT	Digital Transformation
IoT	Internet of Things
BMI	Business Model Innovation
CLV	Customer Lifetime Value
CAC	Customer Acquisition Costs
ARR	Annual Recurring Revenue
MRR	Monthly Recurring Revenue
NRR	Net Revenue Retention
OBC	Outcome-Based Contracts
SBM	Subscription-Based Model
B2B	Business to Business
SaaS	Software-as-a-Service
WLAN	Wireless Local Area Network
TAM	Total Addressable Market
CAGR	Compound Annual Growth Rate
CapEx	Capital Expenditure
OpEx	Operational Expenditure
AWS	Amazon Web Services
RPO	Remaining Performance Obligations
CX	Customer Experience
AI	Artificial Intelligence
TAC	Technical Assistance Center
DNA	Digital Network Architecture

1 - Introduction

The transition to subscription-based business models is reshaping the technology industry, offering growth opportunities but posing significant operational, cultural, and financial challenges. The proposed research seeks to provide a comprehensive understanding of the subscription model transformation and explore Cisco's strategic transition. Conducted a survey targeting professionals in the technology sector to evaluate the perceptions of subscription-based models as a growth strategy, the challenges companies face when transitioning to recurring revenue, opportunities subscription models provide for innovation and customer retention and insights on best practices and lessons learned from similar transitions.

In the survey, there were multiple questions asked with the goal of answering these 6 research questions:

1. How do technology industry professionals perceive the benefits and challenges of subscription-based business models compared to traditional models?
2. What are the key success factors for companies transitioning to subscription-based business models in the technology industry?
3. What factors influence the adoption of subscription-based models in the technology sector?
4. What are the most common operational and cultural challenges faced by companies during the transition to subscription-based models?
5. What best practices can be identified from companies that have successfully shifted to recurring revenue models?
6. What are the financial implications of transitioning to subscription-based models?

This thesis is structured into four distinct sections: i) a literature review, which summarizes the main academic contributions related to the central topics being studied based on articles from top international journals; ii) a business case on Cisco, detailing the company's strategic journey toward a subscription-based business model, including its operational changes, key milestones, and financial implications; iii) the feedback collected through a survey distributed to professionals in the technology industry, along with an analysis of the results regarding perceptions, challenges, and best practices related to subscription models; and iv) the final conclusions of this thesis, along with suggestions for future research.

2 - Literature Review

This literature review explores the academic foundations underpinning the transition to subscription-based business models in the technology sector. Adopting a funnel structure, it begins with broader concepts, digital transformation and business model innovation, and narrows toward more specific topics directly related to Cisco's strategic shift: organizational change, recurring revenue strategies, subscription-based models, and SaaS. This theoretical framework enables a contextualized analysis of Cisco's evolution and informs the subsequent market research.

2.1 Digital Transformation: Strategy, Technology and Change

Digital transformation (DT) has emerged as a pivotal phenomenon, driven by the convergence of digital technologies, evolving customer behaviours, and intensified competitive pressures. While technological innovation has long been a catalyst for organisational change, the contemporary wave of DT is distinguished by its scope, scale, and speed (Vial, 2019). DT is not merely the adoption of novel technologies, but an integrated, strategic process that reshapes value creation, organisational structures, and business models (Matt et al., 2015; Verhoef et al., 2021).

Despite its prominence, DT remains conceptually diverse. Kraus et al. (2022) distinguish DT from related concepts such as digitization, the conversion of analogue to digital formats, and digitalization, which encompasses the use of digital technologies to improve or transform processes. DT extends beyond these by integrating digital technologies into all organisational dimensions, triggering fundamental changes in operations, culture, and strategy. Vial (2019) proposes a definition of DT as "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies". This definition emphasises DT as both a technological and organisational transformation.

Verhoef et al. (2021) conceptualise DT as a multi-phase process with strategic imperatives that include building digital resources, adapting organisational structures, pursuing growth strategies, and redefining performance metrics. Matt et al. (2015) highlight that DT strategies differ from IT strategies in their cross-functional scope and emphasis on transforming products, processes, and organisational configurations to capture opportunities presented by digital technologies.

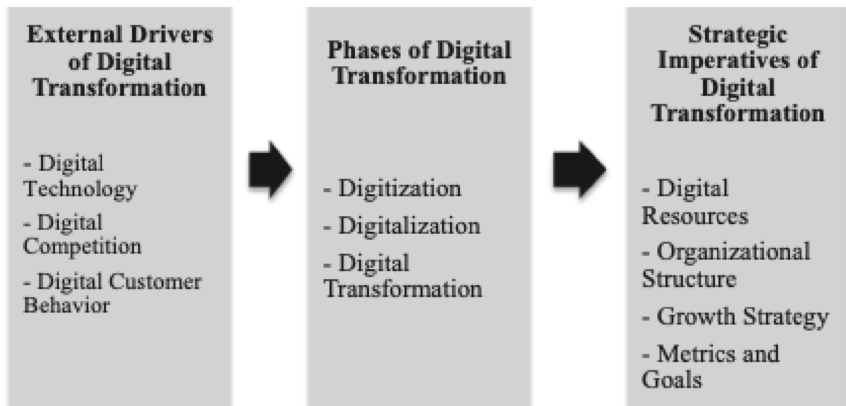

Figure 1: Flow Model for Discussion on Digital Transformation (Verhoef, P.C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi, J., Fabian, N. and Haenlein, M. (2021) 'Digital transformation: A multidisciplinary reflection and research agenda')

2.1.1 Drivers and Accelerators

The literature converges on three principal drivers of DT: technological advancements, competitive disruption, and shifting customer expectations (Verhoef et al., 2021). Breakthroughs in artificial intelligence (AI), cloud computing, Internet of Things (IoT), and blockchain expand firms' capabilities to innovate and optimise operations. At the same time, digital-native competitors leverage these capabilities to disrupt established markets, forcing incumbents to adapt or risk obsolescence. Customers increasingly expect personalised, seamless, and omnichannel experiences, raising the strategic importance of digital capabilities.

Kraus et al. (2022) note that crises, such as the COVID-19 pandemic, can act as accelerators of DT by forcing rapid adaptation and the reconfiguration of processes. However, they caution against framing DT as purely technology-led; rather, it should be viewed as a strategic initiative that aligns technological adoption with organisational goals.

2.1.2 Strategic Alignment, Opportunities and Risks

The alignment of DT strategy with corporate, operational, and functional strategies is critical (Matt et al., 2015). Misalignment risks fragmented initiatives that fail to deliver systemic change. Effective DT strategies incorporate four dimensions: technology usage, changes in value creation, structural transformation, and financial considerations. This aligns with Vial's (2019) view that

DT is both enabled and constrained by organisational barriers, including resistance to change, legacy systems, and cultural inertia.

When executed effectively, DT can yield significant benefits: increased operational efficiency, innovation in value creation, enhanced customer engagement, and the development of new revenue models (Matt et al., 2015; Kraus et al., 2022). In the technology sector, DT often catalyses business model innovation, including shifts toward subscription-based and recurring revenue models. Verhoef et al. (2021) emphasise that DT's impact on business models necessitates new performance metrics, such as customer lifetime value and engagement rates, alongside traditional financial indicators.

However, the literature also acknowledges risks. Overemphasis on technology at the expense of organisational readiness can lead to failed initiatives (Kraus et al., 2022). There are also societal and ethical implications, including concerns over privacy, workforce displacement, and digital inequality (Vial, 2019). Warner and Wäger (2019) further highlight the challenge of balancing exploitation of existing capabilities with exploration of new ones, a tension that is particularly acute for incumbent firms.

2.1.3 Research Gaps and Future Directions

Despite substantial progress, several gaps remain. First, as Vial (2019) notes, conceptual clarity is still lacking, with many studies conflating DT's enablers, processes, and outcomes. Second, empirical insights into how firms orchestrate cross-functional integration during DT are limited. Third, while dynamic capabilities are recognised as central to DT, further research is needed to understand their development in different industry contexts (Warner and Wäger, 2019). Finally, as Verhoef et al. (2021) argue, a multidisciplinary approach is essential, integrating insights from strategy, marketing, information systems, and organisational theory.

2.2 Business Model Innovation: Redesigning Value Creation

Business Model Innovation (BMI) has become a key strategic approach for organisations seeking to navigate technological disruption, shifting customer demands, and intensifying competitive pressures. While product and process innovation have been extensively studied, BMI represents a more systemic transformation, fundamentally altering the ways in which an organisation creates, delivers, and captures value (Velu, 2015; Foss and Saebi, 2017). In contexts characterised by digital transformation, BMI plays a particularly important role as technological change enables novel configurations of activities, revenue streams, and customer relationships.

2.2.1 Drivers of Change

BMI occurs when one or more of these dimensions is fundamentally reconfigured, often in response to market dynamics, technological advances, or regulatory changes (Foss and Saebi, 2017). Foss and Saebi's (2017) identifies key antecedents, including environmental dynamism and strategic intent; processes such as experimentation, adaptation, and transformation; and outcomes including performance improvement and sustained competitive advantage. They note that the literature remains fragmented and call for integrative frameworks connecting micro-level organisational processes with macro-level strategic renewal.

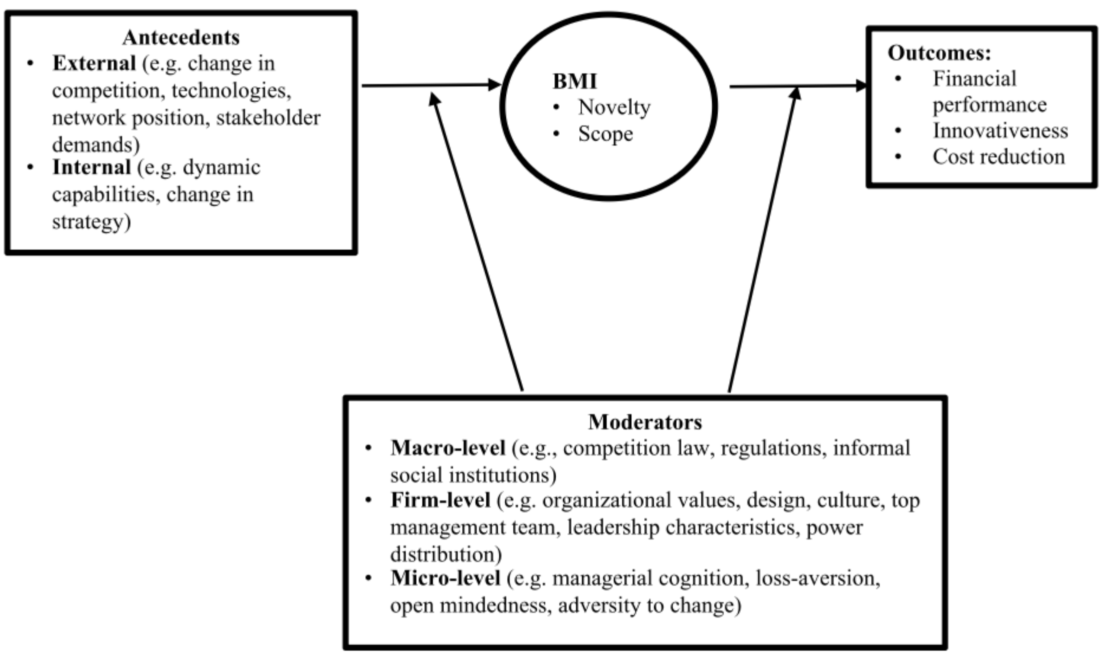

Figure 2: Research Model for Future Business Model Innovation (Foss, N.J. and Saebi, T. (2017) 'Fifteen years of research on business model innovation: How far have we come, and where should we go?')

Clauß (2017) advances the conceptualisation of BMI by developing a validated multi-dimensional measurement scale that captures changes in the value proposition, value creation architecture, and revenue mechanisms. This measurement approach enables systematic assessment of BMI intensity and its performance implications, providing a methodological basis for comparative studies across industries and organisational contexts.

Saebi, Lien and Foss (2017) analyse how perceived opportunities and threats interact with a firm's strategic orientation to shape business model adaptation. Their findings suggest that proactive, opportunity-oriented firms tend to pursue more radical BMI when faced with emerging technological opportunities, while threat-oriented firms often resort to incremental adjustments. This distinction underscores the importance of strategic orientation in determining the scope and ambition of business model changes.

2.2.2 Processes of Innovation and Performance Outcomes

The processual nature of BMI has been explored in detail by Sjödin, Parida, Jovanovic and Visnjic (2020), who investigate outcome-based business models in which providers guarantee results rather than selling discrete products or services. They propose a three-phase process: (1) defining the value proposition; (2) designing the value provision system; and (3) delivering value-in-use. Central to this process is the alignment between value creation activities and value capture mechanisms, with misalignment at any stage risking reduced profitability and diminished customer satisfaction. Their work highlights the iterative and relational aspects of BMI, particularly in models reliant on ongoing performance rather than one-off transactions.

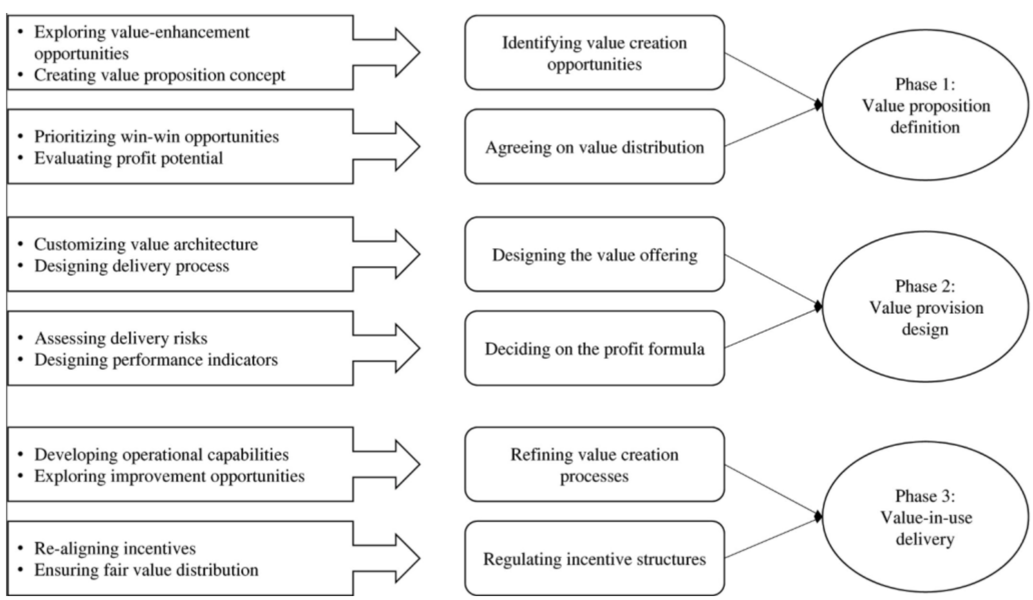

Figure 3: Three aggregate dimensions corresponding to phases in BMI (Sjödin, D., Parida, V., Jovanovic, M. and Visnjic, I. (2020) 'Value creation and value capture alignment in business model innovation: A process view on outcome-based business models')

The performance effects of BMI are shaped by both its degree of novelty and contextual factors. Velu (2015) demonstrates a U-shaped relationship between the degree of BMI and firm survival: both high and low degrees of change are associated with better survival rates compared to moderate changes. This pattern suggests that incremental adjustments may fail to deliver sufficient differentiation, while radical transformations can succeed if supported by adequate resources and organisational commitment. However, Velu also finds that alliances with third parties can negatively moderate the survival benefits of high-degree BMI, possibly due to coordination challenges and misaligned objectives.

Clauß (2017) empirically validates the positive link between BMI intensity and firm performance, particularly when changes encompass multiple business model components simultaneously. Nevertheless, these benefits are contingent upon organisational capabilities to integrate the new model effectively, manage change processes, and adapt performance measurement systems accordingly. Similarly, Saebi et al. (2017) emphasise that strategic orientation influences not only the initiation but also the successful execution of BMI.

BMI is both an outcome of, and a catalyst for, broader strategic and technological change. Digital technologies expand the set of feasible business model designs, such as subscription-based pricing, outcome-based contracts, and platform-mediated ecosystems, but the ability to capture value from these designs requires organisational adaptation and the development of new capabilities (Foss and Saebi, 2017; Sjödin et al., 2020). Successful BMI often involves concurrent changes to value propositions, delivery mechanisms, and revenue models, necessitating cross-functional integration and stakeholder alignment. And, the impact of BMI on performance is context-dependent, influenced by environmental turbulence, the degree of novelty, and the configuration of partnerships. It requires organisations to balance innovation with execution, to align internal structures with new value logics, and to remain adaptive in the face of evolving market and technological conditions.

2.3 Organizational Transformation: Building Dynamic Capabilities

Organizational transformation refers to the deliberate, large-scale changes in a firm's strategy, structure, processes, and culture aimed at enhancing its ability to adapt to evolving environmental demands. It goes beyond incremental improvements, representing a fundamental reconfiguration of how an organization creates and captures value (Teece et al., 2016). In today's environment, where technological disruption, market volatility, and shifting customer expectations are accelerating, organizational transformation has become a strategic imperative rather than an occasional initiative (Warner & Wäger, 2019).

2.3.1 Dynamic Capabilities and Strategic Renewal

A central theoretical lens for understanding transformation is the dynamic capabilities framework (Teece, 2007), which emphasises the firm's ability to sense opportunities and threats, seize them through effective resource mobilisation, and reconfigure existing assets to sustain competitiveness. Teece et al. (2016) argue that transformation is not about maintaining perpetual change for its own sake; rather, managers must calibrate the level of agility required to address deep uncertainty while balancing efficiency trade-offs. This balance is crucial, as organisational agility is costly to develop and maintain, yet essential under conditions of high unpredictability.

Warner and Wäger (2019) conceptualise digital transformation as an ongoing process of strategic renewal, whereby new technologies not only enable operational efficiencies but also drive fundamental shifts in business models, collaboration patterns, and organisational culture. Their process model identifies nine microfoundations of digitally enabled dynamic capabilities, grouped into sensing, seizing, and transforming activities. These include capabilities such as digital scouting, rapid prototyping, portfolio balancing, and redesigning governance structures, each playing a role in fostering adaptability in the face of market and technological turbulence.

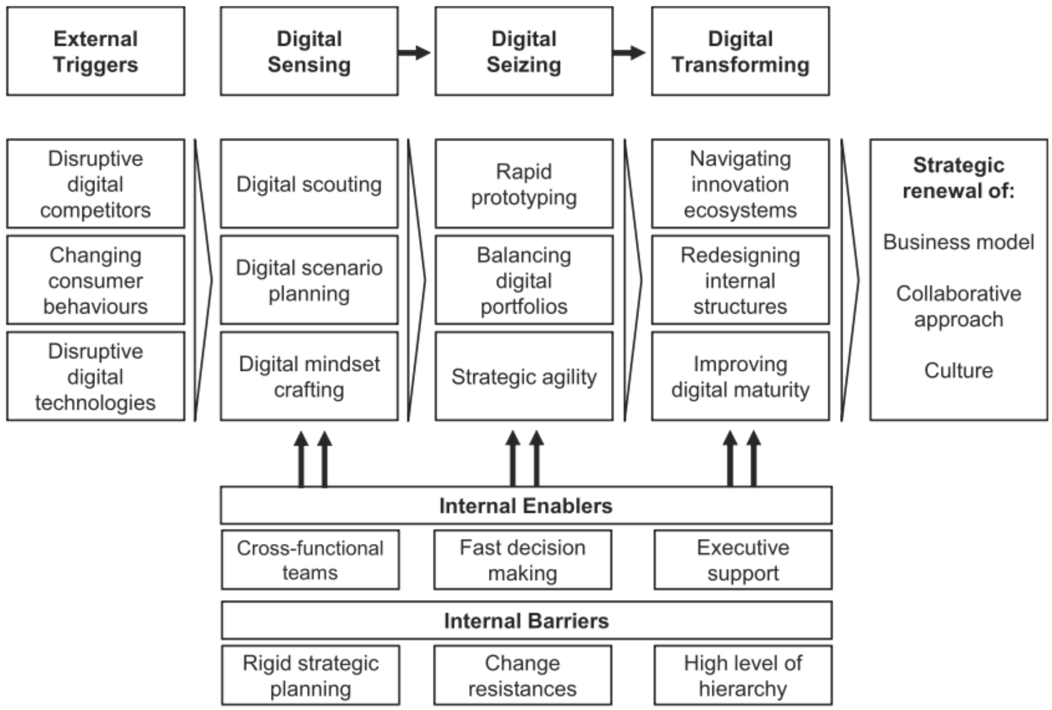

Figure 4: Building dynamic capabilities for digital transformation: A process model. (Warner, K.S.R. and Wäger, M. (2019) 'Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal')

2.3.2 Enablers and Barriers of Transformation

The development of these capabilities is inherently path-dependent, shaped by prior investments, organisational routines, and cultural norms (Cozzolino & Verona, 2024). Firms facing radical environmental changes often need to engage in adaptation processes that involve both exploration of new opportunities and exploitation of existing strengths. Decision-making under such circumstances is marked by uncertainty, requiring leaders to balance continuity with experimentation.

Another critical enabler of organisational transformation is change management, particularly when transformation initiatives are technology-driven. Al-Moaid (2024) demonstrates that dynamic capabilities alone are insufficient without structured change management practices that facilitate employee engagement, communication, and skills development. Change management acts as a mediator between the potential of new capabilities and their actual impact on performance, ensuring that strategic initiatives are embedded into organisational routines.

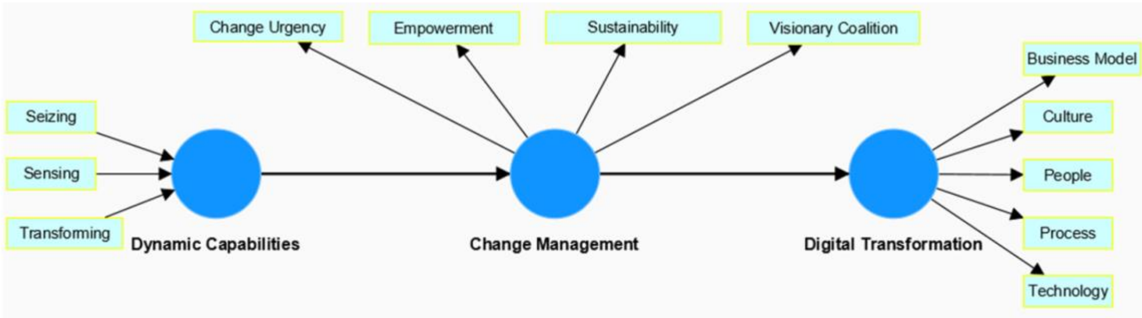

Figure 5: Structural model (Al-Moaid, N.A.A. (2024) 'Developing dynamic capabilities for successful digital transformation: Mediating role of change management')

Complex transformations also frequently involve managing strategic paradoxes, the simultaneous pursuit of conflicting demands such as stability versus flexibility or global integration versus local responsiveness (Smith et al., 2010). Successfully navigating these paradoxes requires ambidextrous leadership, which can create structures and processes that accommodate competing priorities without undermining long-term strategic coherence.

2.3.3 Performance and Continuous Adaptation

Another element of transformation is the post-change performance measurement system. To ensure that transformation translates into sustained results, organisations must adapt their metrics and key performance indicators to reflect new value creation logics. Warner and Wäger (2019) emphasise that DT requires new governance and monitoring mechanisms aligned with evolving business models, while Teece et al. (2016) note that metrics must be consistent with the strategic intent of transformation to avoid misaligned incentives. Cozzolino and Verona (2024) further highlight that adaptation processes benefit from iterative performance reviews, enabling organisations to refine decision-making under uncertainty. Without such alignment, transformation efforts risk being undermined by outdated evaluation frameworks that do not capture the intended strategic outcomes.

Finally, organisational transformation is rarely a linear process; rather, it unfolds as a continuous cycle of sensing environmental shifts, seizing emerging opportunities, and reconfiguring resources accordingly. In this sense, transformation is better understood as an ongoing capability embedded in the organisation's strategic orientation rather than a discrete, one-off event. Firms that institutionalise this capability are better positioned to thrive under conditions of deep uncertainty and to sustain competitive advantage over time (Teece et al., 2016; Warner & Wäger, 2019).

2.4 Recurring Revenue Strategies: From Transactions to Relationships

Recurring revenue strategies represent a shift from transactional, one-time sales toward contractual or habitual customer relationships that generate ongoing income streams over an extended period. The defining characteristic of these strategies is the creation of predictable, renewable revenue flows, which are highly valued by both corporate managers and investors for their stability and scalability (Kowalkowski and Ulaga, 2024). By securing revenue commitments in advance, firms can improve forecasting accuracy, optimise resource allocation, and reduce exposure to demand volatility.

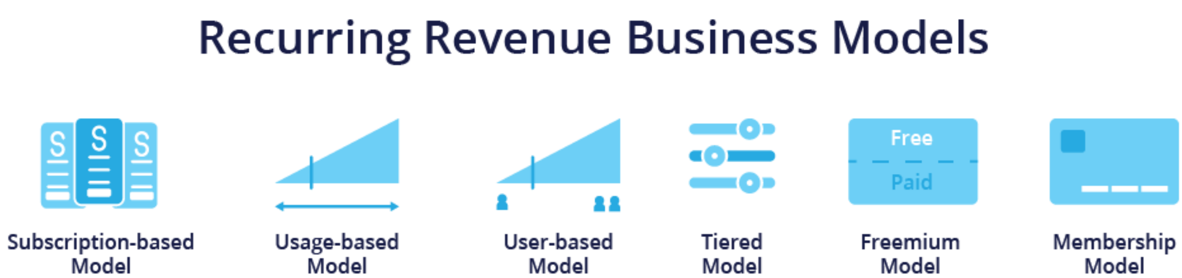

Figure 6: Recurring Revenue Models (Source: https://tridenstechnology.com/recurring-revenue-business-model/)

2.4.1 Strategic and Financial Foundations

From a strategic perspective, recurring revenue strategies reshape the customer relationship lifecycle. Instead of focusing on maximising revenue per transaction, firms emphasise customer lifetime value (CLV), retention, and expansion opportunities within existing accounts (Kowalkowski and Ulaga, 2024; Iyengar et al., 2022). By relating acquisition costs (CAC) to CLV, firms can make informed decisions about marketing spend, pricing strategies, and product development investments (Wu et al., 2024).

From a financial perspective, recurring revenue models enhance key performance metrics such as Annual Recurring Revenue (ARR), Monthly Recurring Revenue (MRR), and Net Revenue Retention (NRR). These measures shift the analytical focus from isolated sales volumes to the lifetime value of customer relationships, incorporating factors like churn rates, upsell potential, and contract expansion (Iyengar et al., 2022; Wu et al., 2024). Recurring revenue strategies demand rigorous churn management. Even modest attrition rates can erode long-term profitability, especially when acquisition costs are high. Retention initiatives, ranging from enhanced onboarding to proactive engagement, are thus as critical as acquisition campaigns in maximising the economic value of the model (Iyengar et al., 2022). This places customer success functions at the centre of revenue management, integrating sales, marketing, and support into a cohesive retention framework.

2.4.2 Recurring Revenue Models

Diversity in model types allows firms to align recurring strategies with industry conditions and customer expectations. Common models include subscriptions-based, usage-based and outcome-based contracts (OBCs), in which payment is linked to the achievement of defined performance results (Sjödin et al., 2020). Korkeamäki et al. (2021) provide evidence that OBCs can enhance profitability through higher gross margins, but these benefits are contingent on effective risk management and the provider's ability to control service delivery costs. Inadequate capability development or misaligned incentives may erode margins, particularly in capital-intensive industries or when outcome measurement is complex (Korkeamäki et al., 2021; Sjödin et al., 2020).

2.5 Subscription-Based Business Models: Designing for Growth

Subscription-Based Business Models (SBMs) operationalise the recurring revenue concept through a specific structural and delivery framework. Under SBMs, customers pay a recurring fee to access a product or service, with the provider retaining ownership and control over the offering (Kowalkowski and Ulaga, 2024). This arrangement transforms the customer experience from a one-time purchase to an ongoing service relationship, in which value is continuously delivered, monitored, and adapted over time.

2.5.1 Subscription Models and Customer Experience

Designing an effective SBM requires careful structuring of the value proposition, delivery mechanism, and revenue capture process. Kowalkowski and Ulaga (2024) propose a taxonomy of subscription offers distinguishing between access-based models (right to use without ownership), rights-based models (offering ownership-like privileges), and hybrid product–service bundles. They highlight that in B2B contexts, subscriptions often extend beyond product access to include value-added services such as monitoring, maintenance, and consulting. The ability to combine physical products with ongoing services fosters continuous value creation, strengthens customer lock-in, and facilitates more predictable cash flows.

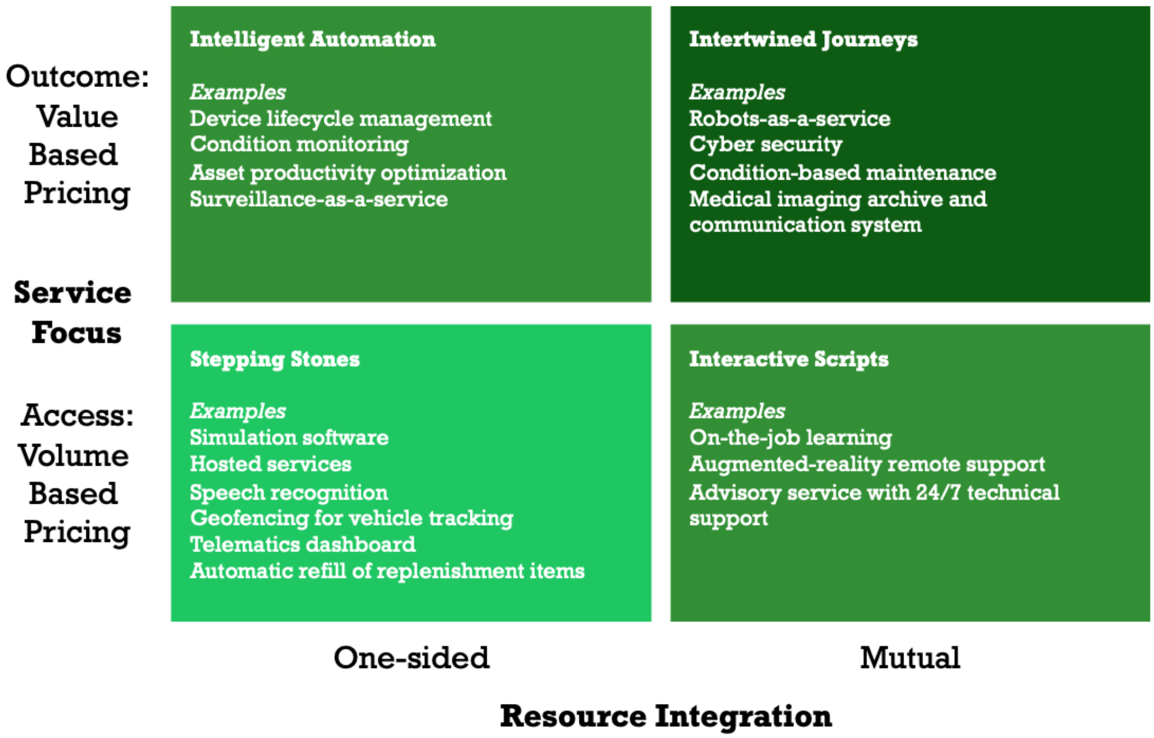

Figure 7: Taxonomy of B2B subscription offers. (Kowalkowski, C. and Ulaga, W. (2024) 'Subscription offers in business-to-business markets: Conceptualization, taxonomy, and framework for growth')

Customer experience design is central to SBM success. Iyengar et al. (2022) show that subscription enrolment can reshape purchasing patterns, increasing both purchase frequency and total spend as customers integrate the offering into routine behaviour. Wu et al. (2024) highlight that subscriptions also drive deeper engagement, both in consumption (more frequent and intensive use) and in contribution (customer feedback, community participation), which strengthens loyalty and reduces churn. These engagement mechanisms are critical for sustaining value delivery over the subscription lifecycle.

2.5.2 Scalability and Operational Risks

Beyond engagement, scalability is a key advantage of SBMs. Once the infrastructure, delivery processes, and digital platforms are in place, adding new customers typically incurs low marginal costs, enabling exponential growth without proportional increases in expenses (Kowalkowski and Ulaga, 2024). However, scalability also introduces risk management challenges, particularly in ensuring service reliability and maintaining customer satisfaction at higher volumes (Li et al., 2022). Iyengar et al. (2022) show that rapid expansion without corresponding investment in support functions can increase churn risk, while Wu et al. (2024) underline the importance of continuous engagement mechanisms to sustain customer loyalty in large-scale subscription portfolios. Failure to manage these operational demands can lead to churn spikes, reputational damage, and revenue instability.

2.5.3 Pricing and Value Capture

Digital delivery platforms are often the backbone of modern SBMs, particularly in Software-as-a-Service (SaaS) contexts. Li et al. (2022) identify three dominant pricing architectures, flat-rate, tiered, and usage-based, each with operational implications for capacity planning, upgrade pathways, and customer segmentation. Aligning pricing structure with service delivery processes is essential to ensure scalability, cost efficiency, and customer satisfaction. In addition, the shift from ownership to access requires robust service reliability, seamless onboarding, and transparent communication to reinforce customer trust.

Pricing strategy plays a dual role in SBMs: it must balance profitability with customer acquisition and retention. Lambrecht and Misra (2017) demonstrate that subscription pricing can outperform free (ad-supported) models when exclusivity, differentiation, or quality control are valued by customers. However, the optimal pricing choice depends on market segmentation and the elasticity of demand, making data-driven experimentation and analysis a key operational capability.

2.6 Software-as-a-Service: The Subscription Logic in Software Delivery

Software-as-a-Service (SaaS) is a cloud-based delivery model in which software applications are hosted by a provider and made available to customers over the internet on a subscription basis.

This paradigm represents a departure from traditional on-premises licensing, shifting both technological and economic responsibilities from the customer to the provider. SaaS offers advantages such as reduced upfront costs, scalability, continuous updates, and remote accessibility, while also creating new operational and strategic considerations for vendors and adopters alike (Li et al., 2022).

2.6.1 SaaS Market and Service Quality

From a market entry perspective, SaaS has distinct dynamics compared to traditional software distribution. Feng et al. (2018) develop a game-theoretic model demonstrating how market entry timing, pricing, and quality choices interact in competitive SaaS environments. Their findings indicate that early market entry can be advantageous when quality differentiation is high, but that delayed entry may be optimal if it allows for superior service development and reduced operational risk. This highlights the importance of balancing time-to-market with the capacity to deliver reliable, high-quality services.

Service quality is a central determinant of SaaS success. Benlian et al. (2011) introduce SaaS-Qual, a multidimensional framework capturing six key service quality dimensions: security, flexibility, responsiveness, reliability, rapport, and features, and empirically link them to customer usage continuance. Their results show that improving service quality has a direct positive effect on reducing churn, as it builds trust and ensures that the SaaS product remains aligned with evolving customer needs. This underscores the shift in competitive advantage from solely product features to the overall service experience in the SaaS context.

2.6.2 Adoption Drivers and Vendor Lock-In

Adoption studies further reveal that environmental and organisational factors influence SaaS uptake. Oliveira et al. (2019) apply the Technology–Organization–Environment framework to show that competitive pressure, regulatory environments, and perceived benefits significantly shape organisational adoption decisions. Firms are more likely to adopt SaaS when external pressures are strong, internal IT readiness is high, and the value proposition is clear. These insights point to the strategic role of external context in shaping SaaS adoption patterns.

An additional consideration in SaaS models is vendor lock-in, where switching costs, such as data migration complexity, process reconfiguration, and retraining, create significant customer dependency on the provider. Benlian et al. (2011) identify service continuity, integration, and support as key factors influencing long-term SaaS adoption, which are directly related to managing lock-in risk. Oliveira et al. (2019) note that high switching costs can be both a retention advantage and a source of customer dissatisfaction if not paired with sustained innovation and quality improvements. Li et al. (2022) further emphasise that pricing models in SaaS should account for these dependencies, ensuring that the value delivered over time justifies the commitment required from customers. While lock-in can secure long-term revenue, it also places greater responsibility on providers to maintain trust, service quality, and innovation to prevent dissatisfaction from escalating into attrition once contractual or technical barriers are can be overcome.

Overall, SaaS represents more than a technological shift, it is a reconfiguration of the software value chain that integrates delivery, service, and monetisation into a unified offering. Success in SaaS requires not only a competitive product but also continuous service quality management, strategic pricing alignment, and an understanding of adoption drivers across different market segments. The literature indicates that firms that master these elements can leverage SaaS not only as a delivery mechanism but as a sustained source of competitive advantage.

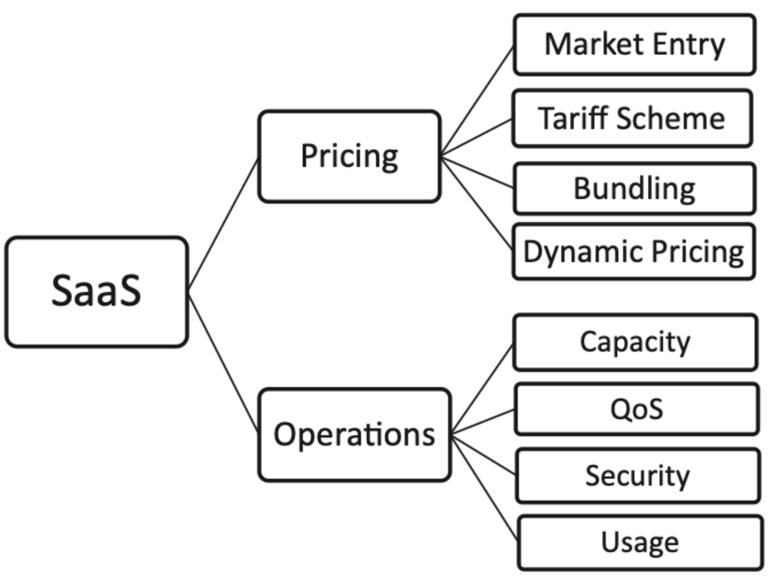

Figure 8: Topics of SaaS research. (Li, B., Kumar, S., Krishnamoorthi, R. and Mookerjee, V. (2022) 'Managing Software-as-a-Service: Pricing and operations').

3 - Case Study - Cisco

This section presents a detailed case study of Cisco Systems, focusing on the company's strategic transition from a traditional hardware-centric business model to one driven by software and subscription-based offerings. The analysis draws on a range of secondary data sources, including Cisco's annual reports, investor presentations, strategic updates, and relevant case studies from comparable companies.

3.1 Strategic Rationale for Change

Founded in 1984 by a group of Stanford University researchers, Cisco Systems began as a pioneer in network routing technology and quickly rose to become a global leader in internet infrastructure. Its initial success was rooted in selling proprietary hardware (routers, switches, and other networking devices) to enterprises, service providers, and governments worldwide. Over the decades, Cisco built a reputation for high-performance products and an extensive channel partner ecosystem, enabling it to dominate the enterprise networking space. Its established position is reflected by its commanding market share: as of Q1 2025, Cisco controls approximately 76% of the market share in the computer networking sector, a substantial lead over second-place Arista (~10%) and Juniper (~7%). In the last quarter of 2024, Cisco held a 39.5% market share in the enterprise WLAN (Wireless Local Area Network) market. With 98% of Fortune 500 companies relying on Cisco infrastructure, the company had approximately $53.8 billion in revenue during FY 2024 and consistently dominates core segments like routers and switches.

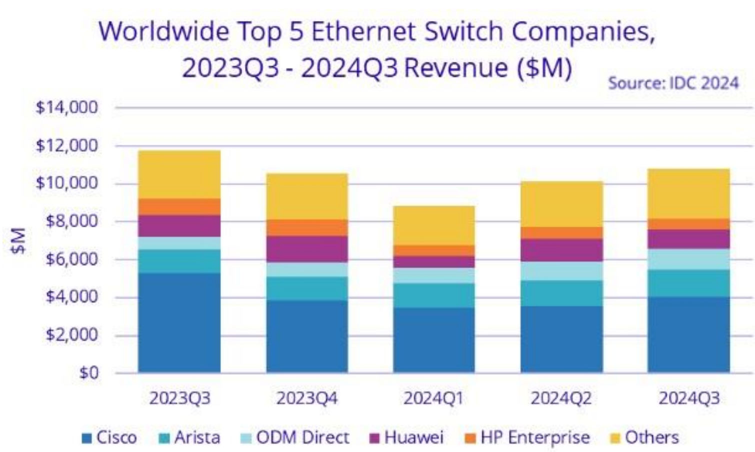

Figure 9: Cisco vs competitors. (Graphic: IDC 2024)

Figure 10: Cisco Ranked #1 in Market Share for Industrial Networking, 2019

For much of its history, Cisco operated under a traditional transaction-based business model, where revenues came from one-time hardware sales and large capital expenditure (CapEx) cycles. While this model had supported strong growth in the past, it increasingly showed signs of strain in the face of digital transformation and the rising popularity of as-a-Service offerings. By the late 2010s, it became clear that the traditional model was no longer sustainable in a world demanding flexibility, speed, and continuous value delivery. Competitors such as Arista, Juniper, and HPE began capturing niche segments with software-centric offerings, while market expectations shifted toward firms with high margins supported by recurring revenue and shareholders began valuing predictability and higher lifetime value, favoring companies with strong recurring revenue bases and forward-looking metrics. In response, Cisco's strategic decision to aggressively pivot toward a subscription-based model was not only logical but necessary. Given Cisco's historical influence, marked by its leadership in infrastructure, dominant market share, and trusted brand, the strategic pivot to subscriptions secures both its legacy strengths and future market relevance, aligning with evolving customer expectations and superior profit dynamics.

3.1.1 Industry Disruption and SaaS Momentum

The shift toward subscription-based business models in the technology industry has been driven by a combination of technological, financial, and customer-driven factors. A growing preference for operational expenditure (OpEx) models that allow for agility, scalability, and lower upfront costs. Meanwhile, businesses seek predictable, recurring revenue streams that improve forecasting accuracy and deepen customer relationships over time.

At the core of this disruption lies the rapid advancement and adoption of cloud computing, which has enabled scalable, on-demand delivery of software and services. This shift has accelerated the rise of SaaS as a dominant model, wherein software is no longer sold as a product, but offered as an ongoing service. Newer market entrants such as Amazon Web Services (AWS), Zoom, and Okta built their businesses entirely on subscription models, gaining competitive advantage through rapid innovation cycles, usage-based pricing, and strong customer intimacy. These born-in-the-cloud companies set a new standard for agility, speed of deployment, and outcome-based value delivery.

For legacy technology companies like Cisco, this shift represented both a strategic threat and a transformational opportunity. Traditionally reliant on multi-year hardware refresh cycles and one-time capital investments, Cisco faced the risk of obsolescence as customers began seeking integrated solutions that evolve continuously with their needs. Buyers no longer wanted to invest heavily in infrastructure upfront, instead, they demanded scalable, flexible solutions that could be consumed as needed, upgraded continuously, and priced according to value delivered. Adapting to this new reality became imperative for Cisco's long-term competitiveness.

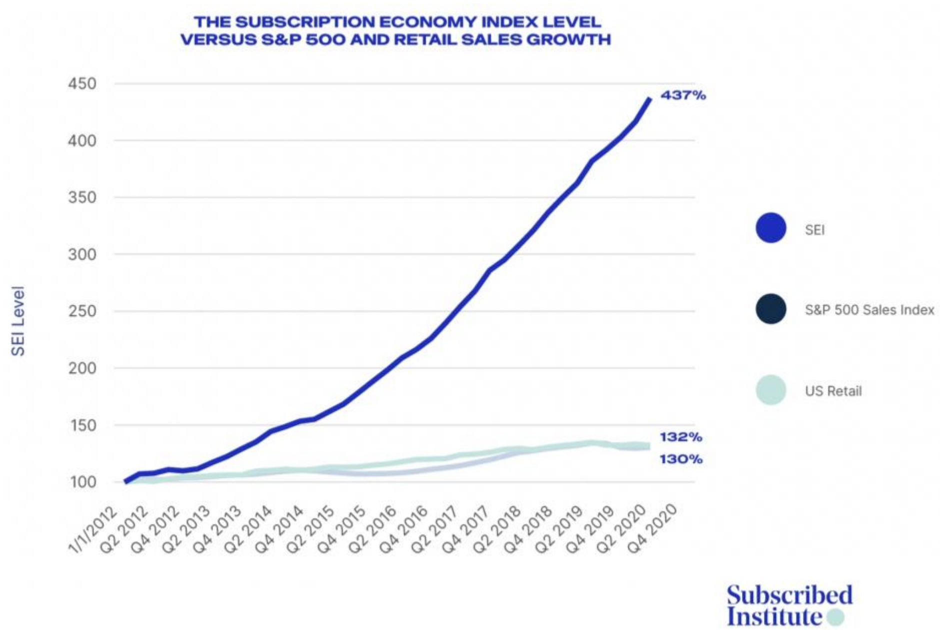

Figure 11: Subscription businesses in the Subscription Economy Index (SEI) have grown nearly 6x faster than the S&P 500 from 2012 to 2020. (Graphic: Business Wire)

3.1.2 The Benchmark Effect: Learning from Adobe and Microsoft

In navigating its own transition, Cisco had the advantage of learning from pioneering companies that had already executed successful shifts to subscription-based business models. Two of the most instructive examples were Adobe and Microsoft, both of which managed to reinvent their core offerings through bold strategic pivots.

Adobe’s transformation began between 2011 and 2013, when it moved from selling perpetual licenses of its Creative Suite software to launching Adobe Creative Cloud, a subscription-based platform. Despite initial skepticism and a short-term revenue dip, the transition ultimately led to a more stable, predictable revenue base, increased customer lifetime value, and a significant rise in market capitalization. By fiscal year 2024, Adobe's Digital Media segment, which includes Creative Cloud, revenue was $15.86 billion, which represents 12% year-over-year growth, with total annual revenue reaching $21.51 billion, growing 11% over the prior year. Adobe’s ability to maintain innovation velocity while transitioning to a recurring model became a reference point for many legacy software companies.

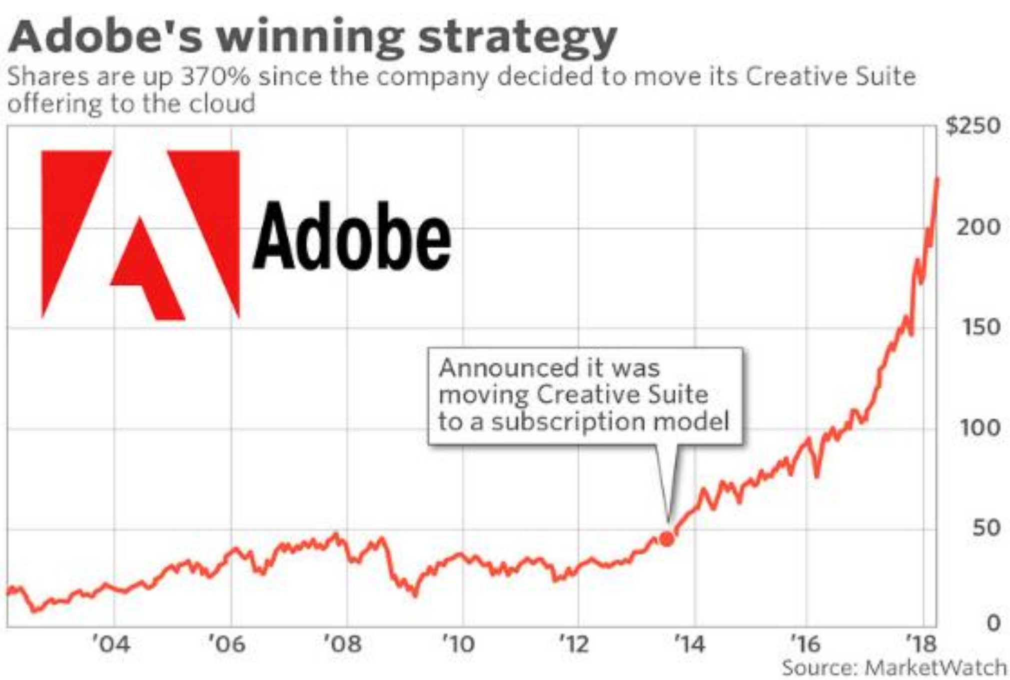

Figure 12: Abode’s market shares after they moved to a subscription model.

Microsoft undertook a similarly ambitious pivot with the launch of Office 365 and the expansion of Azure, its cloud computing platform. By offering its productivity tools and infrastructure services as subscriptions, Microsoft not only diversified its revenue but also created tighter integration across its ecosystem, driving long-term customer lock-in and cross-sell potential. As of FY2024, its Microsoft Cloud segment revenue increased 23% year-over-year to $137.4 billion. Furthermore, the Productivity & Business Processes division, incorporating Office 365 and Dynamics, grew 12% year-over-year, adding $8.5 billion in annual revenue and Microsoft 365 Consumer subscribers grew 10% to 82.5 million. These initiatives played a critical role in repositioning Microsoft as a leader in cloud and enterprise SaaS.

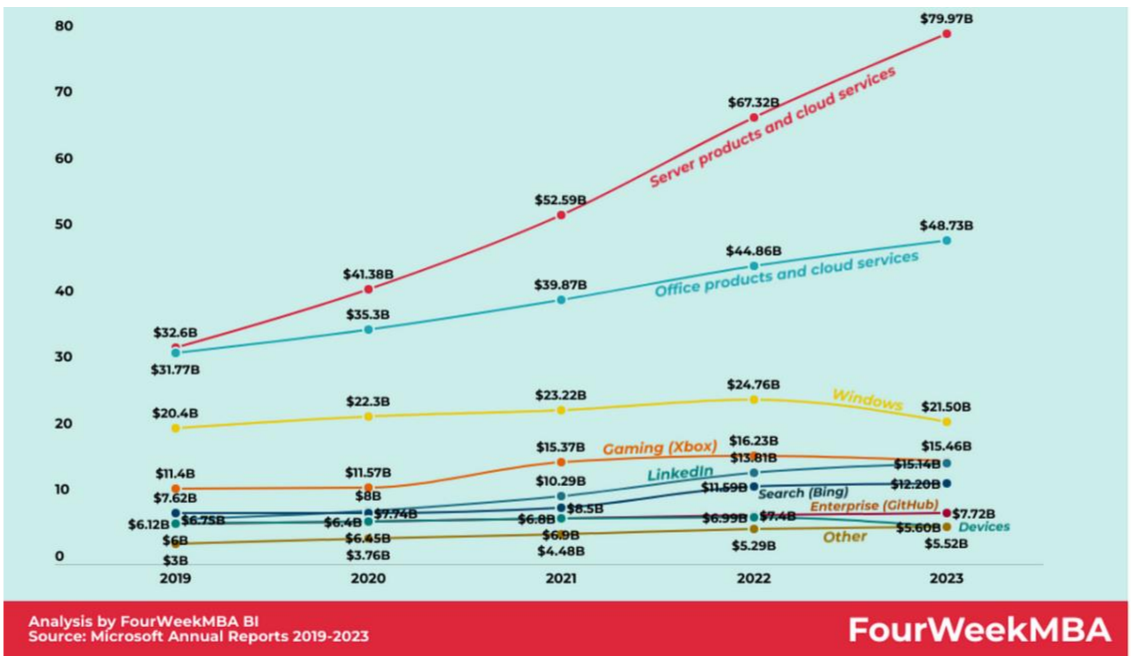

Figure 13: Microsoft's revenue for cloud services

For Cisco, these success stories served as compelling proof points that a legacy company, when backed by clear vision, operational alignment, and strong execution, could thrive in a subscription-based world. The lessons from Adobe and Microsoft reinforced Cisco's strategic decision to pivot toward a recurring revenue model by building on its existing customer relationships, expanding its cloud and software offerings, and embedding subscription models across its portfolio. These benchmarks provided Cisco with a roadmap to evolve from a product-centric vendor to a platform-based service provider aligned with the future of enterprise IT.

3.2 Operational and Organizational Transformation

As Cisco shifted from a hardware-centric company to a subscription-based business model, it underwent a comprehensive internal transformation. This change impacted multiple dimensions of Cisco's internal structure and demanded a rethinking of how the company delivered value.

3.2.1 Revenue Metrics in the Subscription Model

The strategic shift towards monetizing software independently through subscription-based offerings, adopting a recurring revenue model, required not only changes in Cisco's go-to-market approach but also in how it measures and communicates revenue performance.

To evaluate the effectiveness and sustainability of its subscription strategy, Cisco relies on two key financial metrics: Remaining Performance Obligations (RPO) and Annualized Recurring Revenue (ARR). These metrics provide stakeholders with visibility into future revenue streams and the health of the company's recurring revenue base.

RPO represents the total value of contracted revenue that has not yet been recognized. It is divided into two components: Deferred Revenue (already billed) and Unbilled Contract Revenue. Deferred revenue includes payments received or invoiced for subscription services that have not yet been delivered. For instance, if Cisco sells a 12-month SaaS contract valued at $1,200, only $100 is recognized in the first month, while the remaining $1,100 is recorded as deferred revenue and recognized gradually over the contract term. On the other hand, unbilled contract revenue accounts for the portion of multi-year contracts that have not yet been invoiced. For example, if Cisco signs a five-year, $50 million contract billed annually, only the current year's $10 million is invoiced, while the remaining $40 million is recorded as unbilled revenue. Together, these two components make up RPO, which is considered a reliable indicator of future revenue. Importantly, a significant portion of Cisco's RPO, approximately 50%, is expected to be recognized within 12 months, reinforcing the near-term visibility into its revenue pipeline.

ARR is another fundamental performance metric used by Cisco to quantify the recurring value of active subscription contracts over a 12-month period, regardless of their original duration. For example, if a customer signs a multi-year contract, the total contract value is divided by the number of months and multiplied by 12 to estimate its annualized contribution. ARR serves as a consistent baseline for tracking the expansion or contraction of Cisco's subscription business. It is especially useful in evaluating renewal rates and identifying growth opportunities through upselling, cross-selling, and net-new customer acquisition. Moreover, the compounding effect of contract renewals and incremental sales, referred to as revenue stacking, makes ARR a powerful tool for forecasting long-term growth and setting realistic performance targets.

3.2.2 Salesforce Restructuring and Compensation Models

Historically, Cisco's salesforce was incentivized to close large, one-time hardware deals with long refresh cycles. However, in a recurring revenue model, success is measured not by initial bookings, but by customer retention, product usage, and expansion over time.

To address this, Cisco redesigned sales incentives to reward ARR and contract renewals, rather than upfront hardware sales. Sales professionals were retrained to adopt a value-based selling approach, where the focus shifted from selling products to delivering long-term outcomes. To retain and grow recurring revenue, Cisco needed to ensure that customers actively used and realized value from their subscriptions. This led to the creation of the Customer Experience (CX) organization, focused on adoption, expansion, and renewal across the customer lifecycle. New roles such as Customer Success Managers and Renewal Specialists were introduced to ensure continuous engagement after the sale. The CX organization became a crucial enabler of growth, ensuring that customers not only stayed with Cisco but also expanded their usage through additional subscriptions and services.

3.2.3 IT and Operational Infrastructure

The move to subscription-based revenue also required deep changes to Cisco's internal systems. Traditional billing systems were not equipped to handle recurring invoices, usage metering, license entitlements, or multi-year contracts. To enable this new operating model, Cisco invested in cloud-based infrastructure, including platforms capable of supporting automated provisioning, license management, and real-time telemetry.

Cisco had to integrate the back-end systems of multiple acquired SaaS products, such as Meraki, Duo, AppDynamics, and ThousandEyes, while ensuring a consistent billing and customer experience. The company also implemented new analytics tools to capture user activity data, which became essential not only for invoicing but also for driving proactive customer support and personalized engagement strategies. These upgrades allowed Cisco to streamline operations while maintaining the flexibility required to support subscription-based offerings.

3.2.4 Cultural Transformation

Transitioning to a software and service mindset required employees at all levels to think differently prioritizing customer outcomes, continuous improvement, and agility. Engineers had to think in terms of services rather than products. Leaders had to drive alignment across functional areas from marketing to legal and procurement to support a subscription-first mentality.

To catalyze this shift, Cisco launched internal initiatives such as the "Innovate Everywhere Challenge", which engaged over 50% of employees in intrapreneurship programs aimed at developing cross-functional, customer-focused solutions generating 2,800+ ideas and $2B+ business impact. Executive leadership, led by CEO Chuck Robbins, played a pivotal role in reinforcing the new direction through consistent messaging and accountability.

Cultural transformation also meant breaking down functional silos. Engineering, marketing, finance, and operations teams had to collaborate more closely to support the full customer lifecycle. This new level of integration enabled faster time-to-market for new services and better alignment between product development and customer needs.

3.3 Cisco's Subscription Journey

Cisco's transition was not a single event, but a multi-year transformation across product lines, business units, and corporate culture. The process officially gained momentum under CEO Chuck Robbins, who took the helm in 2015 with a clear mandate: software, cloud, and subscriptions would define Cisco's next chapter.

3.3.1 From Hardware to Hybrid

The first phase of transformation involved building subscription-friendly products and platforms. While core routing and switching remained essential, Cisco began bundling software features into packages like Cisco DNA (Digital Network Architecture), which enabled customers to buy advanced capabilities through renewable licenses.

Cisco also accelerated the growth of its collaboration portfolio, including Cisco Webex, a cloud-native communication platform that could be delivered on a subscription basis. Similarly, Cisco Meraki offered a cloud-managed solution for networking and security, simplifying IT operations for organizations and enabling ongoing value delivery.

Moreover, with fewer dependencies on one-time hardware purchases, the company is less vulnerable to supply chain disruptions and component shortages, issues that have affected the tech sector in past years.

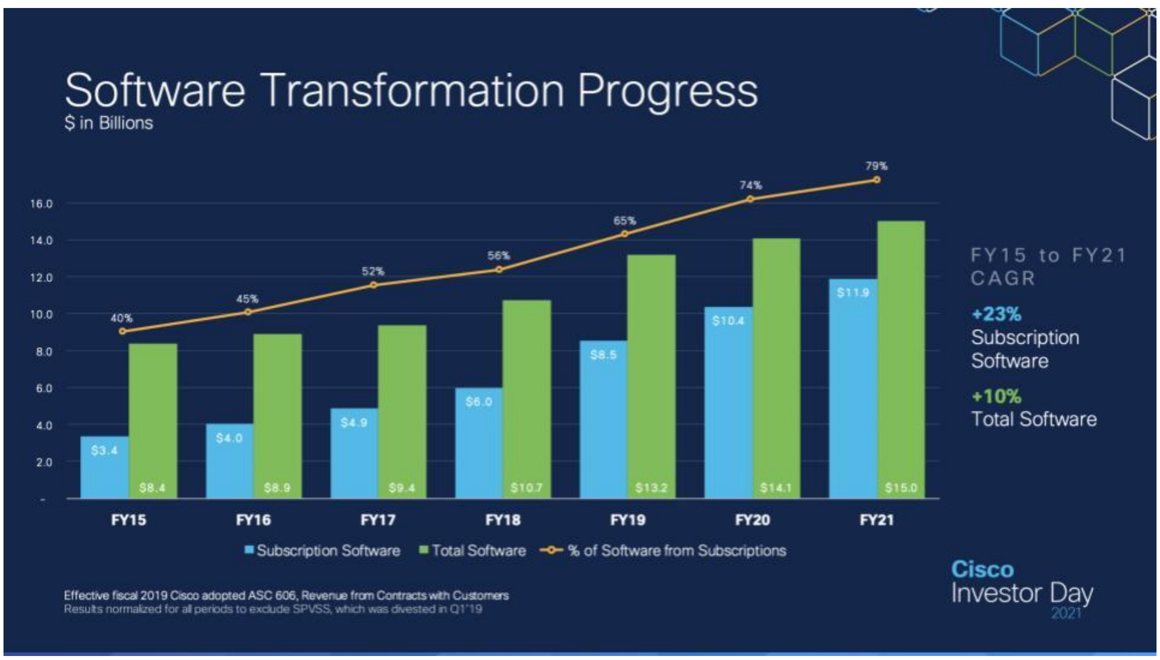

Figure 14: Cisco Investor Day, 2021

3.3.2 Security and Observability as Key Anchors

Recognizing that cybersecurity and observability were ripe for subscriptions, Cisco pursued strategic acquisitions to strengthen its position in these areas. Early moves included the acquisition of Duo Security, a leader in identity and access management, and AppDynamics, a provider of application performance monitoring tools, both of which enabled Cisco's ability to offer outcome-based solutions via SaaS models, embedding recurring revenue streams into its portfolio.

Building on this foundation, Cisco made a landmark acquisition in 2023 by acquiring Splunk, a leading platform in security information and event management, observability, and machine data analytics. The $28 billion deal (Cisco's largest to date) marked a bold step toward consolidating its leadership in cybersecurity and full-stack observability. Splunk's strong subscription-based business, combined with its expertise in handling machine data and threat detection, positions Cisco to offer highly integrated, cloud-native platforms that support resilient, secure, and intelligent digital operations.

Splunk will be instrumental in accelerating Cisco's transformation into a software and AI-driven company, with high ARR potential. Its integration is expected to enhance Cisco's capabilities in threat detection, data analytics, and AI-driven operations, all of which are tightly aligned with subscription monetization models. Together with platforms like SecureX (cloud-native platform designed to simplify and enhance security operations by integrating various Cisco and third-party security products) and ThousandEyes (cloud-based network intelligence platform that provides visibility into digital experience delivery across any network), Splunk strengthens Cisco's backbone of recurring revenue offerings and reflects a deliberate shift from transactional product sales to long-term, outcome-focused service delivery.

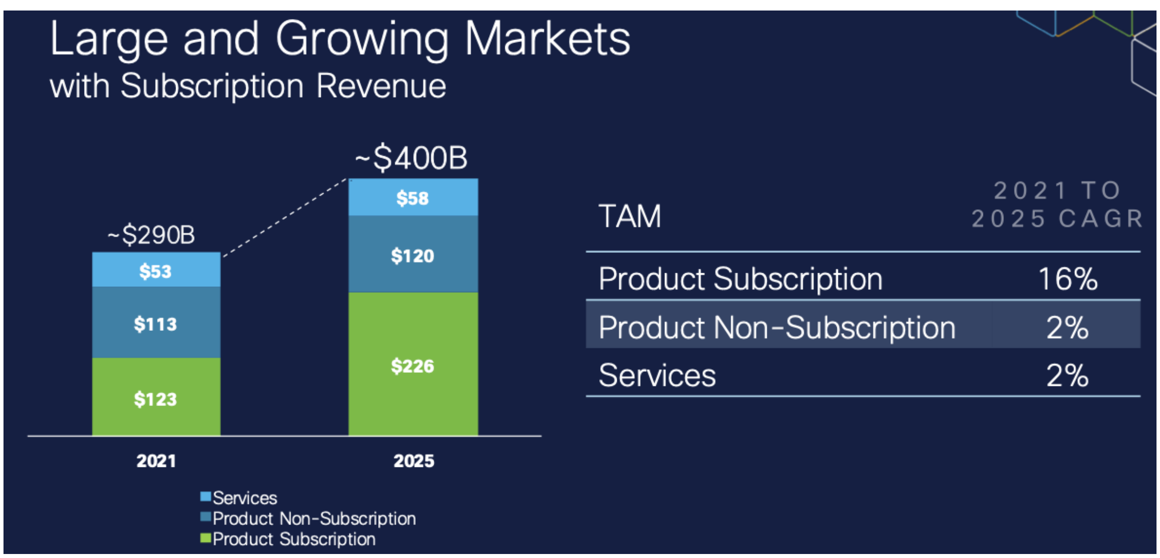

Figure 15: Cisco Transformation (investor.cisco.com)

3.3.3 Challenges and Success Factors

Transitioning from a traditional, hardware-focused business model to a software and subscription-first approach posed significant challenges for Cisco. Yet, the company navigated this transformation with strategic clarity and operational discipline, ultimately turning obstacles into growth enablers.

a) Short-Term Financial Pressures: One of the most immediate challenges was managing investor expectations. Shifting from upfront sales to subscription-based revenue inevitably led to short-term revenue dips. Investors had to be educated on the long-term benefits of recurring revenue, such as higher customer lifetime value and improved predictability. Since 2015, CEO Chuck Robbins has championed "software, cloud, and subscriptions" as Cisco's strategic pillars. Leadership set clear targets, and regularly communicated the transformation agenda in quarterly presentations. This consistency reinforced internal and investor confidence.

b) Channel Disruption & Partner Adjustment: Cisco's partner ecosystem was initially unprepared for the transition toward recurring revenue. Partners relied heavily on high-margin, one-off hardware deals and often lacked the capabilities needed to support subscription models. Cisco responded by enhancing its partner program with lifecycle and usage-based incentives, specialist onboarding, and training programs. Notably, the 2017 Partner Program overhaul introduced Lifecycle Advisor Program and Migration Incentives to drive adoption and renewals aligning partner rewards with subscription performance and customer outcomes. This drove adoption of the "land, adopt, expand, renew" model, shifting partner focus from upfront deals to ongoing value generation.

c) Culture Shift & Internal Resistance: Moving to a subscription-first culture required a radical shift from shipping products to delivering continuous customer value and outcomes. Cisco dismantled internal silos and introduced the "Innovate Everywhere". This initiative helped mitigate internal resistance and increased organizational agility, but managing such widespread cultural change remained a major challenge.

d) Operational Complexity & Systems Overhaul: Deploying subscriptions required robust systems for monitoring usage, automating billing, and managing licensing entitlements, all while supporting multiple acquired platforms (e.g., Meraki, Duo, AppDynamics, Splunk). Cisco had to upgrade legacy IT systems, develop telemetry capabilities, and integrate billing platforms, ensuring seamless provisioning and recurring revenue tracking.

e) Customer Adoption & Renewal Risks: Subscription success depends on ongoing adoption and retention, not just initial sales. Cisco introduced new roles such as Customer Success Managers and enhanced its Technical Assistance Center (TAC) to proactively guide customers through adoption journeys. AI-powered guidance tools, predictive risk alerts, and adoption benchmarks were implemented to reduce churn.

3.3.4 Financial Traction

By FY 2024, Cisco had achieved a significant milestone: 51 % of its total revenue, $27.4 billion, originated from subscription services. This figure reflects a substantial increase from approximately 22% in FY2017, highlighting the steady and deliberate nature of Cisco's transformation. This shift represented a major pivot away from Cisco's traditional reliance on hardware, reinforcing the long-term viability of its subscription-first strategy.

Several financial indicators support the strength and sustainability of this transformation:

- ARR: Cisco's ARR reached $29.6 billion in FY 2024, growing 22 % year-over-year, including $4.3 billion contributed by Splunk post-acquisition.
- RPO: Cisco's RPO stood at $41.0 billion, an 18 % increase over the prior year. Notably, 51 % of this RPO is expected to be recognized within the next 12 months, offering visibility into near-term revenue flows.
- Deferred Revenue: Cisco reported $28.5 billion in deferred revenue, marking an 11 % year-over-year increase, with deferred product revenue rising 15 %.

This financial evolution is further supported by strong growth in subscription-related software, especially in security and observability. In Q4 FY 2024 alone, software subscription revenue reached \$16.4 billion, a 15 % increase year-over-year and comprising 89 % of total software revenue.

Cisco's shift to subscription-first offerings not only generates more predictable and recurring revenue but also fuels the adoption of tiered pricing strategies, freemium trials, and customer success metrics. These characteristics are indicative of mature SaaS businesses and support the company's ability to forecast growth reliably. With ARR growth, bolstered RPO, and a solid subscription revenue base, Cisco has positioned itself for sustained long-term value creation, making the management of subscription dynamics a central component of its financial strategy.

Figure 16: Financial Analyst Conference on Cisco Live U.S. in Las Vegas, June 2017

3.3.5 A Strategic Inflection Point for the Tech Industry

The rise of subscription-based business models represents more than a commercial trend, it signals a profound transformation in how technology companies create, deliver, and capture value. As organizations move away from transactional sales toward recurring revenue models, they are not merely changing pricing structures but reimagining their entire operating logic. This shift challenges legacy systems, traditional sales incentives, organizational culture, and even investor expectations.

Cisco's transition exemplifies how an established industry leader can navigate this transformation with strategic foresight. However, its journey also underscores a broader tension faced by many technology companies: how to evolve toward a subscription model without sacrificing efficiency, agility, or customer trust. While the potential benefits, such as predictable revenue streams, closer customer relationships, and scalable innovation, are widely acknowledged, the path to achieving them is often complex and context-dependent.

This thesis positions Cisco's evolution as a foundation for a wider exploration into the challenges and opportunities that subscription models present for the technology sector at large. The shift requires a redefinition of success metrics, a new approach to customer engagement, and a deeper alignment between product, sales, and support functions. Through a market research, understanding how companies are responding to these demands and what lessons can be drawn from their experiences is critical to navigate this industry-wide inflection point.

4 - Market Research

A questionnaire was developed for this study and distributed through social media during September 2025. The survey gathered responses from 80 professionals working in the technology industry, 68 respondents whose organisations had either fully or partially implemented subscription-based models and 12 respondents whose organisations had not yet adopted or were still considering the transition, ensuring a diverse representation across roles, experience levels, and business model adoption stages. Results are analysed separately for organisations that have already adopted or partially implemented such models and for those that have not yet done so but are considering the transition. This information was verified using *Google forms* and *Excel*.

4.1 Sample Profile

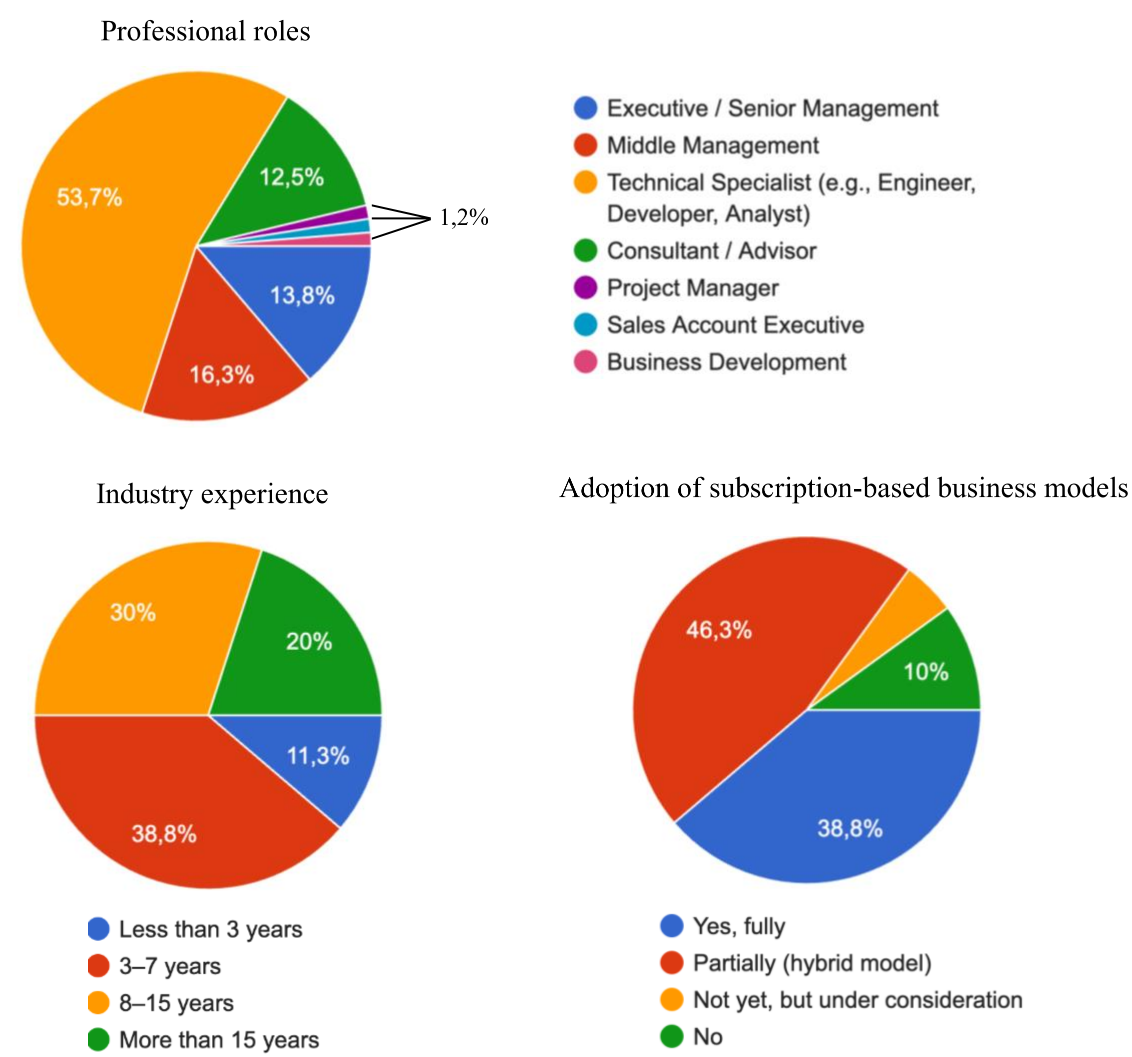

Figure 17: Profile of respondents

The respondent profile demonstrates that the survey captures a comprehensive cross-section of the technology ecosystem, with a predominance of technically oriented professionals (53.7%) complemented by managerial and executive voices. The significant proportion of respondents from companies that have either fully or partially adopted subscription models (85.1% combined) underscores the widespread diffusion of recurring revenue strategies across the sector. The prevalence of hybrid models (46.3%) further highlights an ongoing phase of transition, where many companies are gradually evolving from traditional transactional models toward recurring revenue systems. Furthermore, the experience-level distribution suggests that insights are drawn from both operational practitioners and strategic decision-makers, enabling a nuanced understanding of the challenges, success factors, and organisational dynamics involved in the transition toward subscription-based business models.

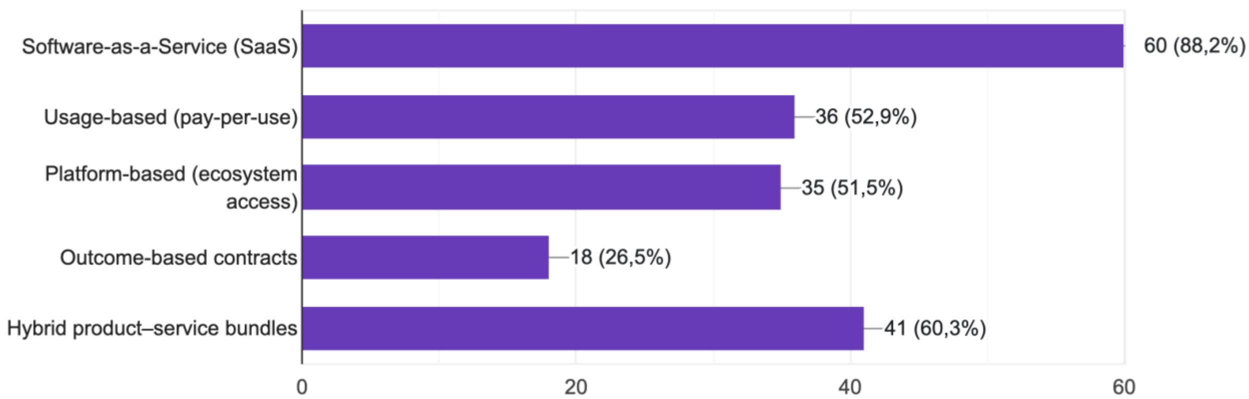

Figure 18: Type of subscription models in use

Among the respondents whose companies had fully or partially adopted subscription-based models, the most widely implemented approach was Software-as-a-Service (SaaS), reported by 88.2% of this group. This dominance underscores the centrality of SaaS as a foundational model for digital transformation and recurring revenue generation in the technology industry. Hybrid product–service bundles followed with 60.3%, reflecting an increasing trend toward integrated offerings that combine hardware, software, and continuous service delivery. This distribution reveals that most companies employ multiple concurrent subscription models to suit their product portfolio, market positioning, and customer base. It also suggests a progressive diversification of monetization strategies, where firms balance stable subscription revenues with performance-linked or usage-based pricing to enhance flexibility and scalability.

4.2 Perceptions of Subscription Models

This section explores respondents' perceptions regarding the advantages and challenges of subscription-based business models in the technology sector. The aim is to identify patterns in how experience with subscription models influences perceived benefits, risks, and strategic implications.

4.2.1 Adopters & Hybrids

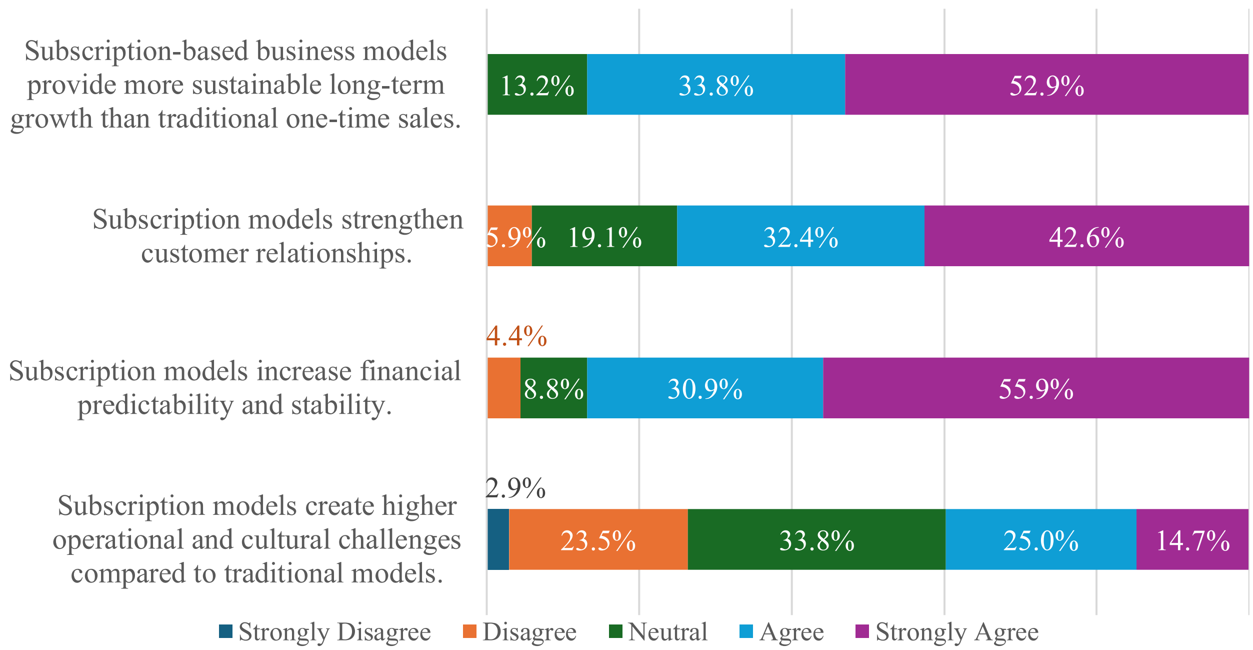

Figure 19: Perception of subscription models of adopters and hybrids

Among the 68 respondents whose organisations had either fully or partially implemented subscription-based models, perceptions were predominantly positive across all benefit-related dimensions. A strong majority (52.9% strongly agreed and 33.8% agreed) that subscription-based business models provide more sustainable long-term growth compared to traditional one-time sales. This result indicates that most professionals perceive subscriptions as a viable foundation for scalability and resilience in dynamic technology markets.

Similarly, the belief that subscription models strengthen customer relationships was widespread: 42.6% strongly agreed and 32.4% agreed, while only 5.9% expressed disagreement. These findings reinforce the notion that continuous engagement inherent in subscription arrangements fosters stronger relational bonds, ongoing feedback loops, and customer retention, all central to long-term competitive advantage.

Perceptions of financial predictability and stability were also overwhelmingly favourable. A combined 86.8% of respondents agreed or strongly agreed that subscription models improve financial stability, underscoring the strategic value of recurring revenue in mitigating volatility and enabling more accurate forecasting. This aligns with research highlighting the appeal of predictable income streams to both management and investors in subscription-oriented businesses.

In contrast, perceptions regarding operational and cultural challenges were more evenly distributed. While 39.7% (strongly agree + agree) acknowledged that subscription models entail higher challenges than traditional models, 33.8% remained neutral and 26.4% disagreed. This diversity of responses suggests that while many organisations recognise the complexities associated with transforming internal processes, cultural adaptation, and cross-functional coordination, others may have successfully institutionalised these changes or perceive them as manageable over time. Overall, the results indicate that experienced adopters tend to view the benefits as outweighing the difficulties, particularly once the initial transformation phase has been stabilised.

4.2.2 Non-adopters & Considering

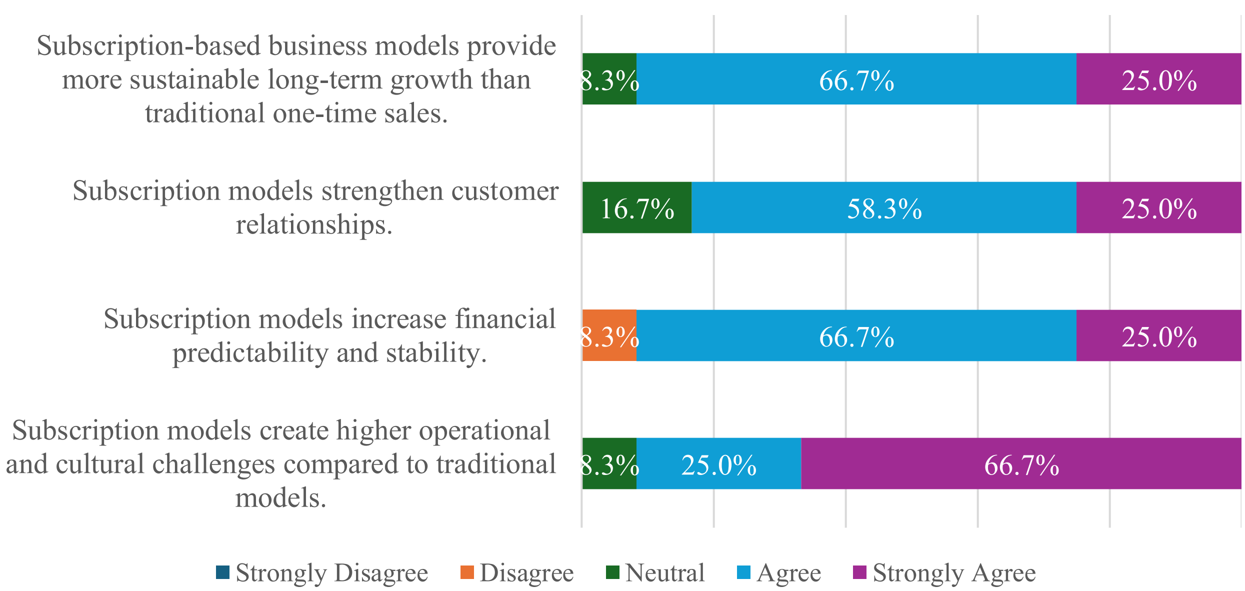

Figure 20:Perception of subscription models of non-adopters and considering

Among the 12 respondents whose organisations had not yet adopted subscription-based models or were still considering the transition, perceptions were also generally positive but with distinct emphasis and intensity.

A combined 91.7% (25% strongly agree, 66.7% agree) agreed that subscription models provide more sustainable long-term growth, mirroring the optimism of adopters but with slightly less conviction in the "strongly agree" category. This indicates that even without direct implementation experience, the perceived strategic rationale for subscriptions is widely recognised across the sector.

Likewise, 83.3% of respondents agreed or strongly agreed that subscription models strengthen customer relationships, reflecting an awareness of the customer engagement potential even among non-adopters. However, no respondents expressed disagreement, suggesting a more uniform but theoretical endorsement, possibly informed by industry discourse rather than hands-on experience.

The perception that subscriptions enhance financial predictability and stability was also highly consistent, with 91.7% agreeing or strongly agreeing and only 8.3% disagreeing. This further supports the idea that the financial appeal of recurring revenues is well understood, even for companies yet to implement such systems.

Notably, this group expressed significantly higher concern regarding operational and cultural challenges: 66.7% strongly agreed and 25% agreed that subscription models create more complex internal dynamics. This contrasts sharply with the adopters' more moderate distribution of opinions. The heightened perception of difficulty among non-adopters suggests that anticipated transformation barriers, such as organisational resistance, systems overhaul, or new performance metrics, may act as an obstacle to adoption or delay decision-making.

4.2.3 Comparative Insights

The comparative analysis between adopters and non-adopters reveals an important perception gap. Both groups strongly agree on the strategic and financial benefits of subscription-based business models, including sustainability, customer engagement and predictable revenue. However, the magnitude of perceived operational and cultural challenges diverges significantly: non-adopters view the transition as substantially more difficult, whereas adopters, having undergone or begun the transformation, report more balanced or neutral views.

This suggests that experience moderates perceptions of risk and complexity. Organisations that have implemented or experimented with subscription models tend to reassess the perceived barriers once practical learning replaces theoretical assumptions. Conversely, companies still at the consideration stage may overestimate the magnitude of the challenges, possibly due to uncertainty, lack of internal capabilities, or limited exposure to successful case examples.

Overall, these findings reinforce that while the strategic rationale for subscription adoption is widely accepted across the technology sector, the implementation gap lies primarily in organisational readiness and confidence in managing change rather than in belief in the model's long-term benefits.

4.3 Key Success Factors

This section examines the key success factors perceived by professionals in the technology industry as most critical for an effective transition to subscription-based business models.

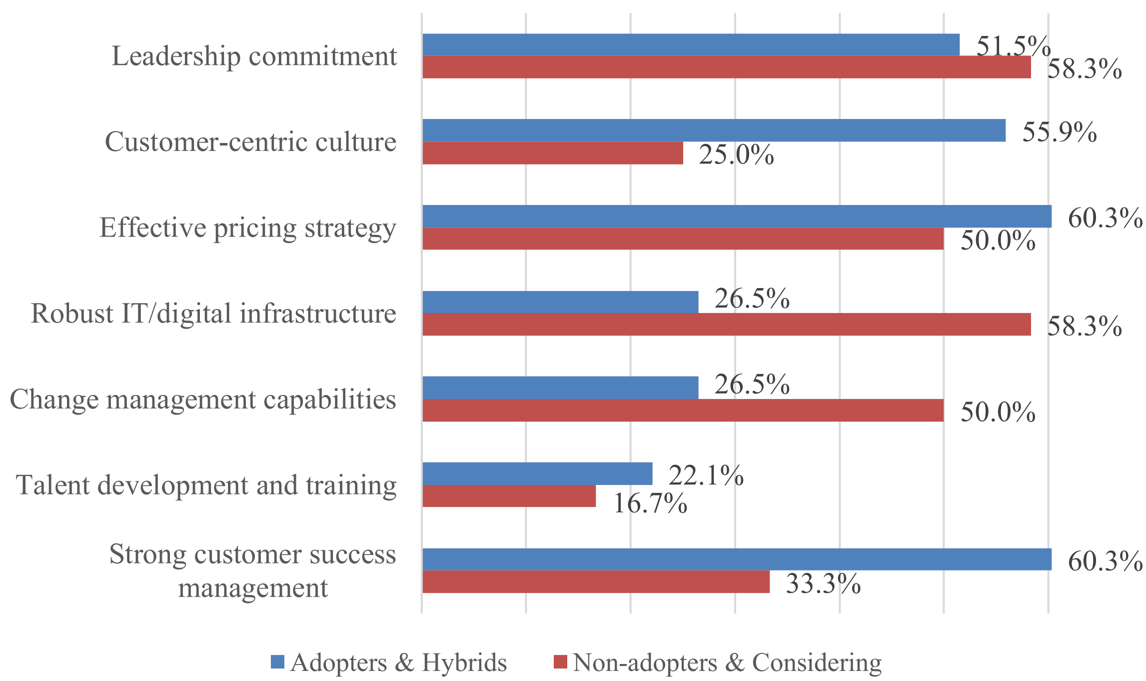

Figure 21: Key Success Factors perceived by professionals in the technology industry

A comparison between adopters and non-adopters reveals a clear divergence in perceived drivers of success, reflecting the transition from pre-adoption assumptions to post-adoption learning.

Adopters and hybrids prioritise Strong Customer Success Management (60.3%) and Effective Pricing Strategy (60.3%), followed closely by Customer-Centric Culture (55.9%) and Leadership Commitment (51.5%), signalling a shift in focus from internal readiness to external value delivery once the model is operational.

The prominence of customer success management underscores the central role of ongoing relationship management and retention-focused practices in subscription-based environments. This reflects the broader shift from transactional selling to continuous value realisation, where customer satisfaction and engagement directly influence revenue continuity and expansion.

The emphasis on effective pricing strategy highlights the complexity of balancing customer acquisition, retention, and profitability in recurring models. Pricing precision becomes a strategic capability.

Comparatively lower emphasis was placed on technological and organisational enablers, such as Robust IT/Digital Infrastructure (26.5%), Change Management Capabilities (26.5%), and Talent Development and Training (22.1%). This suggests that once implementation is underway, companies may perceive these factors as foundational but not differentiating, necessary to enable transition, yet not the primary determinant of long-term success. In other words, while technology and change readiness are prerequisites, sustained success ultimately depends on customer retention, lifetime value optimisation, and adaptive monetisation strategies rather than purely structural enablers.

Non-adopters, by contrast, perceived the success factors to be more operational and infrastructure-oriented. They placed greater emphasis on Robust IT/Digital Infrastructure (58.3%), Leadership Commitment (58.3%), Effective Pricing Strategy (50%), and Change Management Capabilities (50%), indicating that they view subscription transformation as primarily a technological and organisational challenge to be solved before securing customer or financial benefits.

By contrast, Customer-Centric Culture (25%) and Strong Customer Success Management (33.3%) were considered less critical, suggesting that organisations without hands-on subscription experience may underestimate the relational and retention-driven nature of the model. The relatively low importance attributed to Talent Development and Training (16.7%) further reflects a focus on system-level preparation rather than workforce transformation.

In essence, experience redefines what success means. Firms that have undergone subscription transformation recognise that the true differentiators lie in relationship quality, pricing sophistication, and cultural alignment, while those still preparing for change concentrate on building technical and managerial foundations. The contrast highlights the importance of evolving from a readiness-driven to a relationship-driven success model as organisations progress through the subscription maturity curve.

4.4 Adoption Drivers

This section examines the factors that technology professionals identify as most influential in driving the adoption of subscription-based business models. The comparison highlights differences in perceived market pressures, strategic motivations, and expectations regarding the outcomes of adoption.

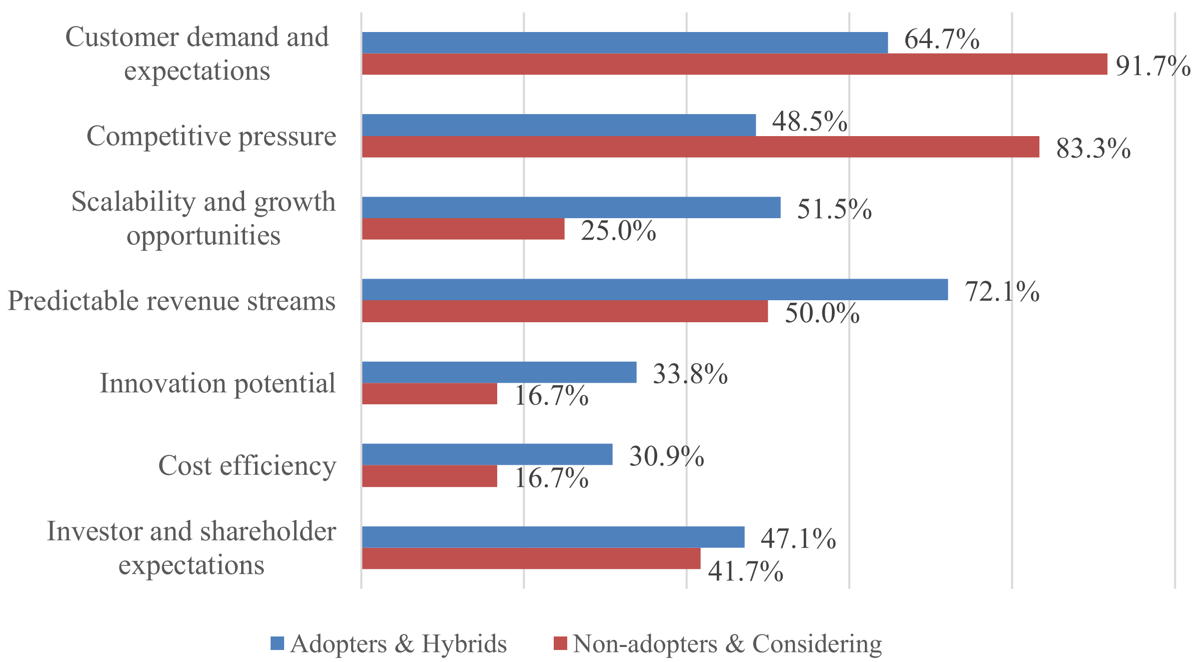

Figure 22: Adoption Drivers identified by professionals in the technology industry

Among the adopters and hybrids, the most frequently cited drivers were Predictable Revenue Streams (72.1%), Customer Demand and Expectations (64.7%), and Scalability and Growth Opportunities (51.5%). Their motivations suggest a deliberate and opportunity-oriented mindset that integrates subscriptions into broader business model innovation and digital transformation efforts.

The prominence of predictable revenue streams reflects a central financial rationale for recurring revenue models, the shift from volatile, one-time transactions to stable and forecastable income flows that support long-term planning and investor confidence.

Customer demand and expectations emerged as the second most influential driver, indicating that external market dynamics, particularly the growing preference for flexible, access-based consumption, put strong pressure on firms to adapt.

Scalability and growth opportunities were also widely recognised, highlighting that adopters view subscription models as a pathway to sustained growth once digital delivery infrastructures are established. Compared to transactional models, subscription architectures enable expansion across markets and customer segments with lower marginal costs.

Moderate emphasis was placed on Competitive Pressure (48.5%) and Investor and Shareholder Expectations (47.1%), suggesting that while competition and investor sentiment influence adoption, they are secondary to the intrinsic business logic of predictable, recurring revenues. Lower rankings for Innovation Potential (33.8%) and Cost Efficiency (30.9%) indicate that adopters perceive these as indirect or derivative benefits rather than primary drivers.

Non-adopters perceptions of adoption drivers were notably different. The most frequently cited factors were Customer Demand and Expectations (91.7%) and Competitive Pressure (83.3%), followed by Predictable Revenue Streams (50%) and Investor and Shareholder Expectations (41.7%).

This pattern reflects a more reactive and externally oriented perspective, where non-adopters perceive subscription adoption as a necessary response to market and competitive dynamics rather than as a proactive strategic choice. The overwhelming emphasis on customer and competitive pressure suggests that these firms may be motivated primarily by the fear of being left behind in a rapidly transforming industry, rather than by a deeply internalised view of the model's strategic benefits.

By contrast, Scalability and Growth Opportunities (25%), Innovation Potential (16.7%), and Cost Efficiency (16.7%) were rated significantly lower, indicating limited awareness of the long-term operational and innovation advantages that adopters tend to recognise post-implementation.

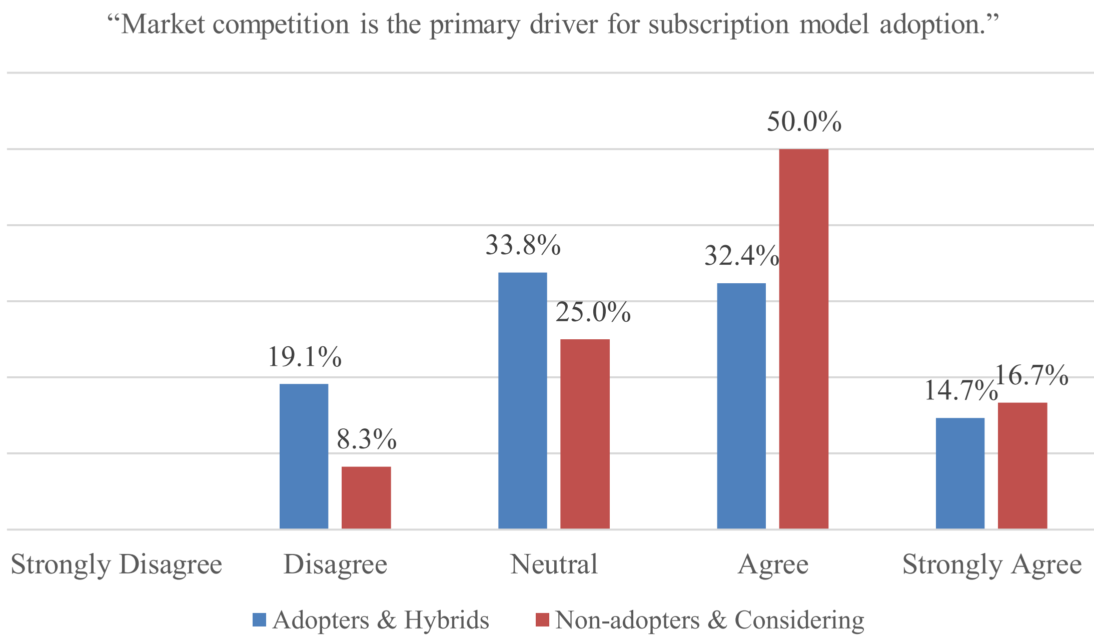

Figure 23: Rating agreement of market competition statement

Adopters when asked to rate agreement with the statement "Market competition is the primary driver for subscription model adoption," responses were mixed: 14.7% strongly agreed, 32.4% agreed, but 33.8% remained neutral and 19.1% disagreed. This distribution suggests that adopters view competitive pressure as an important but not dominant factor. Instead, adoption appears to be driven by strategic and financial motivations, with competition acting as a reinforcing rather than initiating force.

By contrast, non-adopters expressed agreement 66.7% (16.7% strongly agreed + 50% agreed), with only 8.3% disagreeing. This high level of consensus reinforces the idea that non-adopters frame subscription transformation mainly as a competitive necessity, whereas adopters have evolved toward viewing it as a strategic enabler and financial stabiliser.

This divergence implies a transition in understanding: while initial adoption intentions are often reactive, successful implementation requires a proactive strategic orientation centred on customer value creation, scalability, and revenue stability. The evolution from external pressure to internal strategic coherence represents a critical inflection point in a firm's journey toward recurring revenue maturity.

4.5 Business Challenges

The transition to subscription-based business models entails profound operational and cultural adjustments. This section reveals meaningful differences between perceived and experienced obstacles, offering insight into the organisational readiness required for successful transformation.

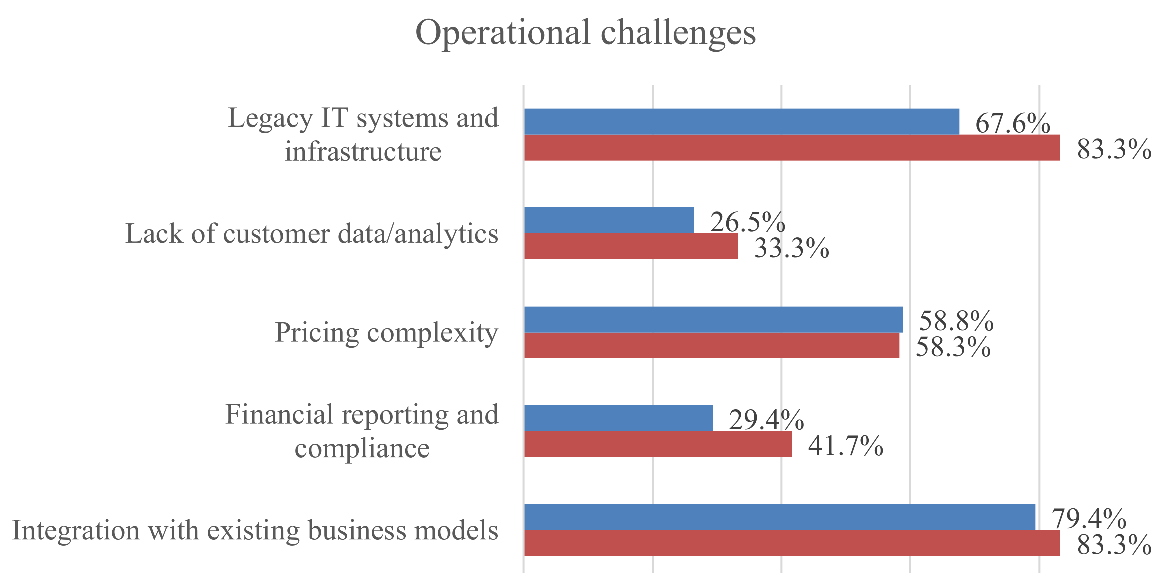

Figure 24: Operational challenges identified by professionals in the technology industry

For organizations that have already adopted or partially implemented subscription models, the most pressing operational challenges identified were Integration with Existing Business Models (79.4%), Legacy IT Systems and Infrastructure (67.6%), and Pricing Complexity (58.8%).
Integration difficulties often stem from misaligned internal processes, incompatible performance metrics, and legacy ERP or CRM systems designed around transactional sales. This is consistent with prior research suggesting that digital transformation initiatives often require not just technological upgrades but also deep organizational reconfiguration to support recurring revenue mechanisms. Pricing complexity emerged as another significant barrier. The transition from one-

time to recurring pricing requires new revenue recognition systems, dynamic discount structures, and tiered service offerings, all of which complicate forecasting and performance evaluation. Similarly, financial reporting and compliance (29.4%) and lack of customer data and analytics (26.5%) were cited less frequently but still represent important barriers to optimization and scalability.

For organizations that have not yet adopted subscription models, the most frequently cited operational challenges were Integration with Existing Business Models (83.3%), Legacy IT Systems and Infrastructure (83.3%), and Pricing Complexity (58.3%). Interestingly, these concerns mirror those of adopters but with slightly higher intensity, suggesting that non-adopters anticipate significant structural disruption should they pursue transition.

Non-adopters also expressed heightened concern with financial reporting and compliance (41.7%), possibly reflecting uncertainty about how to manage revenue recognition, cash flow cycles, and investor communication in a recurring model environment. As with adopters, lack of customer data and analytics (33.3%) was noted, indicating that both groups see data-driven decision-making as an enabler but also a capability gap.

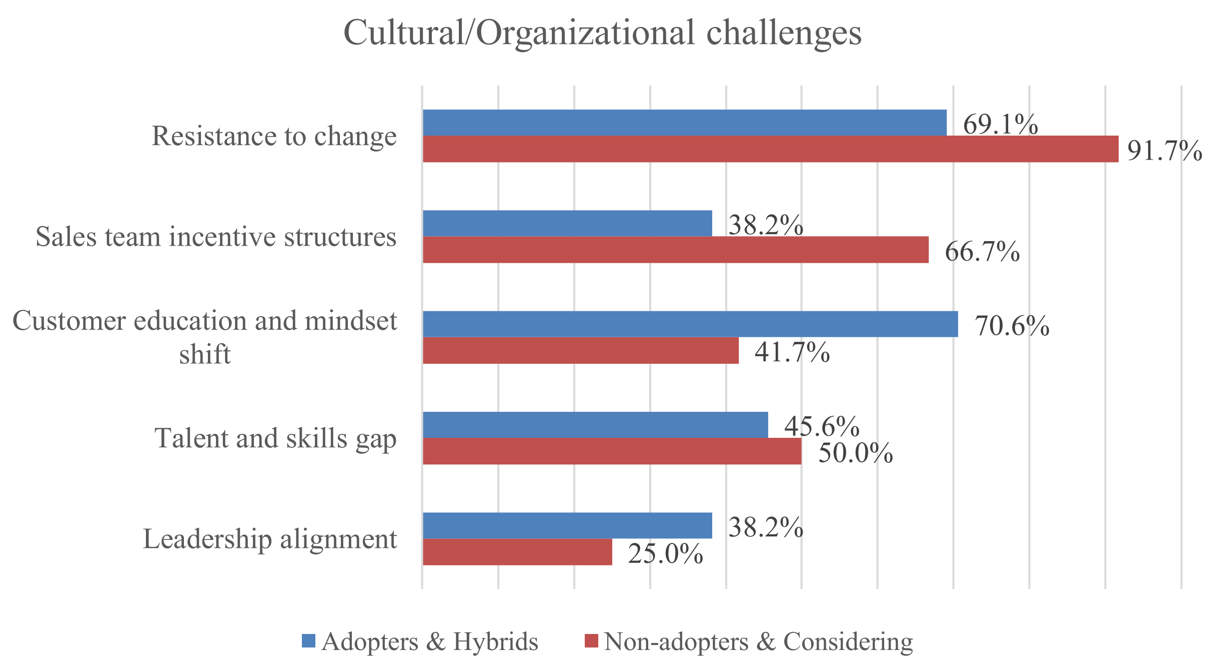

Figure 25: Cultural/Organizational challenges identified by professionals in the technology industry

On the cultural and organizational dimension, for the adopters and hybrids, the leading challenges were Customer Education and Mindset Shift (70.6%), Resistance to Change (69.1%), and Talent and Skills Gap (45.6%). These results indicate that beyond technical barriers, subscription transformation is deeply tied to organizational culture and employee adaptation. Shifting from a product-sales mentality to a service-oriented, customer-lifetime-value mindset often encounters internal resistance, particularly among commercial teams accustomed to short-term sales targets.

Sales team incentive structures (38.2%) and leadership alignment (38.2%) were also cited as key difficulties, reinforcing that transformation success depends on synchronizing organizational incentives and leadership vision with the new recurring model logic.

For the non-adopters, Resistance to Change (91.7%) and Sales Team Incentive Structures (66.7%) dominated the responses. This contrasts sharply with adopters, where customer education and mindset shift were viewed as more critical. The emphasis among non-adopters suggests a fear of internal disruption and inertia, a pre-emptive awareness that existing incentive systems, cultures, and power structures may resist the transition.

In contrast, Customer Education and Mindset Shift (41.7%), Talent and Skills Gap (50%), and Leadership Alignment (25%) were cited less frequently, implying that these challenges are less tangible until organizations begin implementation.

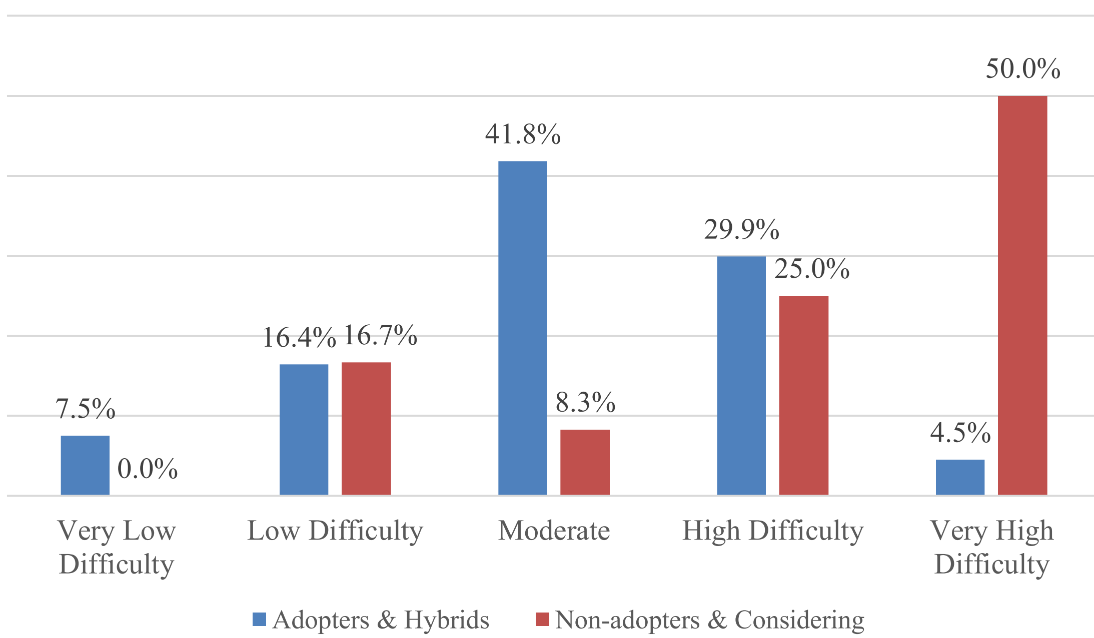

Figure 26: Rating of the level of difficulty experienced or perceived of cultural change

When adopters and hybrids were asked to rate the level of difficulty of cultural change in their company, the largest share of respondents (41.8%) reported it as moderate, while 29.9% rated it as high and 4.5% as very high. Only 7.5% perceived cultural change as very low difficulty. These results reflect a consensus that cultural transformation is a persistent and non-trivial challenge, even among companies with operational experience in subscription models.

When non- adopters rated the anticipated difficulty of cultural change, non-adopters' responses skewed far more pessimistic than those of adopters: 50% rated the difficulty as very high, 25% as high, and only 16.7% as low. None considered the challenge to be very low, revealing a strong perception that the cultural shift required for subscription transformation is daunting and potentially disruptive.

The cultural difficulty rating reinforces this maturity effect. Adopters tend to perceive the challenge as manageable but persistent (majority "moderate"), whereas non-adopters regard it as potentially prohibitive (majority "very high").

Taken together, these findings suggest that perception gaps narrow once companies gain implementation experience, fears about transformation often exceed the actual complexity of managing it. Yet, the persistent emphasis on integration, pricing, and change management across both groups underlines that successful transformation requires synchronized investment in technology, structure, and culture.

4.6 Best Practices

This section examines the practices that professionals in the technology industry identify as most effective in driving successful subscription model implementation. Insights are based on responses from organisations that have fully or partially adopted subscription-based business models (68 out of 80 respondents), ensuring that the analysis reflects direct operational experience rather than theoretical assumptions.

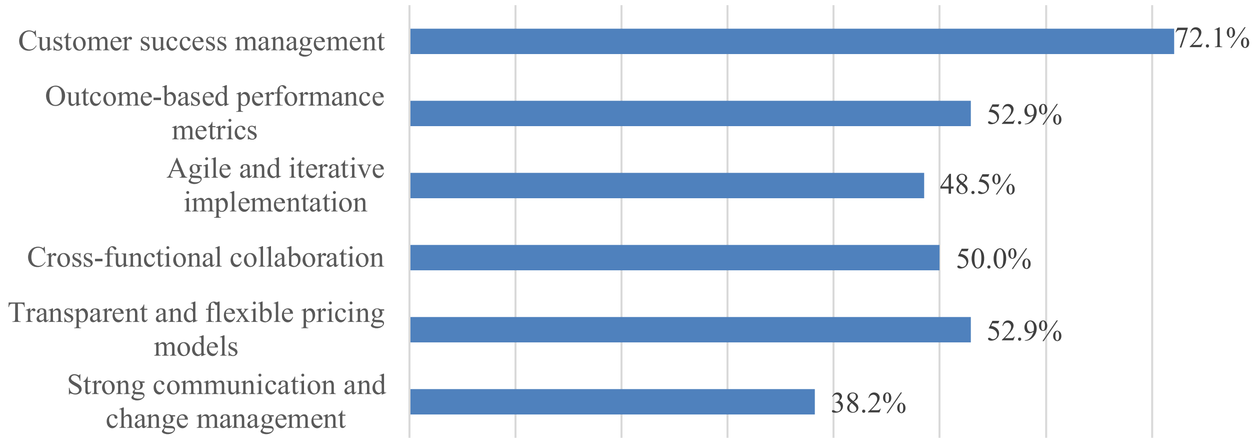

Figure 27: Best practices identified by adopters and hybrids

Among respondents, several recurring practices emerged as fundamental enablers of subscription model success. The most frequently cited were Customer Success Management (72.1%), Outcome-Based Performance Metrics (52.9%) and Transparent and Flexible Pricing Models (52.9%). These findings demonstrate a clear prioritisation of customer-centricity, organisational coordination, and adaptive execution. The prominence of customer success management indicates that firms view retention and relationship nurturing as core strategic imperatives in recurring revenue models. This is consistent with the shift from transactional to relational logic in value creation, where long-term customer engagement replaces one-time acquisition as the primary performance driver.

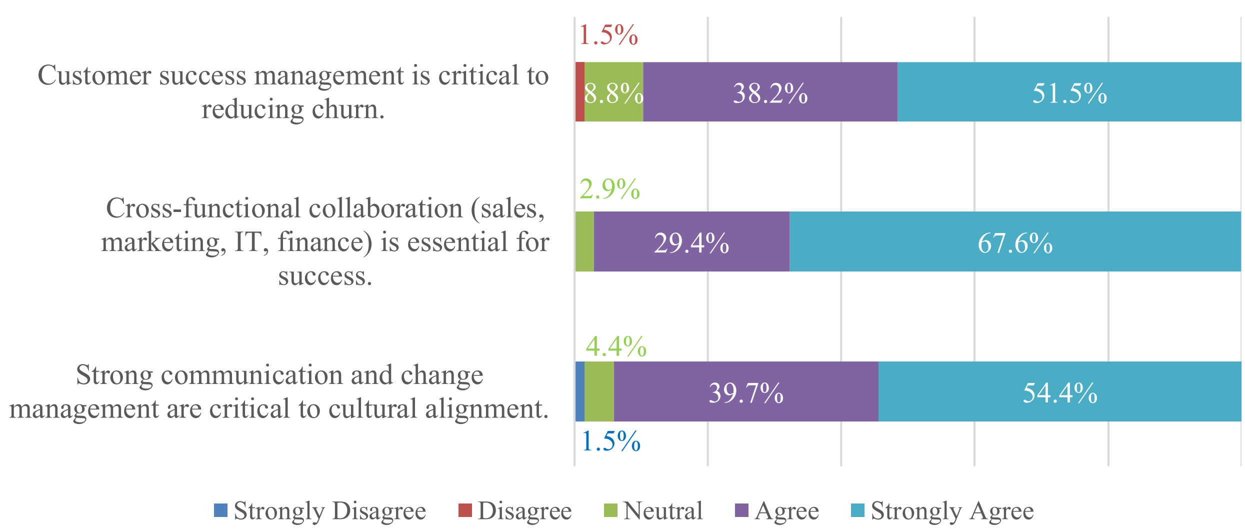

Figure 28: Rating agreement of best practices statements

The survey results reinforce the critical role of customer success functions in mitigating churn and ensuring customer satisfaction throughout the subscription lifecycle. A large majority (51.5% strongly agreed and 38.2% agreed) that customer success management is critical to reducing churn.

Similarly, respondents emphasised the importance of cross-functional collaboration between sales, marketing, IT, and finance teams (67.6% strongly agreed and 29.4% agreed) that such collaboration is essential for success. This consensus indicates that subscription models require integrated coordination across the organisation to synchronise pricing, delivery, data analytics, and financial management. It reflects a departure from siloed operating models toward a more unified, customer-oriented organisational design.

Cultural alignment and communication were also recognised as critical but often underappreciated components of successful transformation. 54.4% strongly agreed and 39.7% agreed that strong communication and change management are critical to cultural alignment. These results highlight that, beyond operational enablers, the human and cultural dimensions of change remain decisive factors in sustaining momentum and employee engagement during transformation.

Taken together, these findings suggest that successful subscription transformation depends not only on technological infrastructure and financial design but also on strategic alignment, cultural adaptability, and an ongoing learning mindset. The convergence of customer-centric strategy, cross-functional collaboration, and agile execution forms the foundation of operational excellence in recurring revenue businesses.

4.7 Financial Implications

The financial dimension of transitioning to subscription-based business models represents one of the most complex aspects of the transformation process. Beyond strategic and operational challenges, the shift requires significant adjustments in revenue recognition, cash flow management, and valuation metrics. This section analyses how organisations that have already adopted or partially implemented subscription models (68 respondents) perceive the financial implications of this transition.

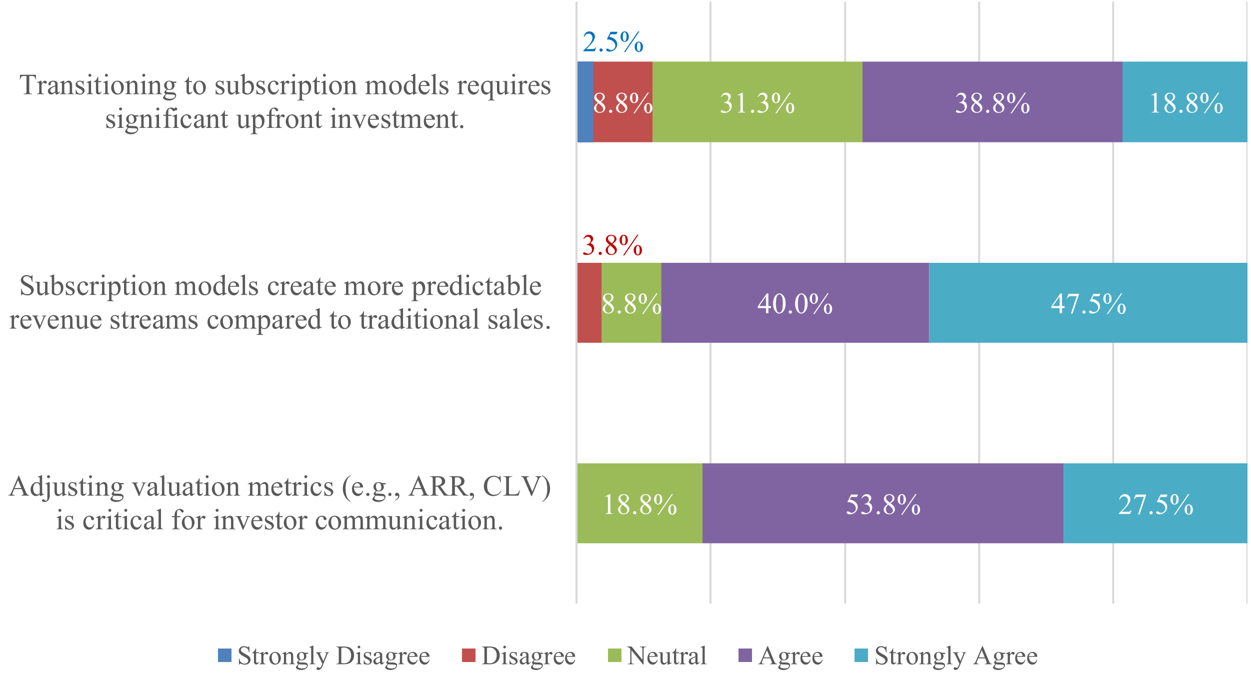

Figure 28: Rating agreement of financial implications statements

Findings indicate that a majority of respondents acknowledge the upfront investment burden associated with transitioning to subscription models. Specifically, 18.8% strongly agreed and 38.8% agreed that the transition requires significant upfront investment, while 31.3% remained neutral, suggesting that the perceived cost impact may vary depending on company size and transformation maturity. Only 11.3% (8.8% disagreed, 2.5% strongly disagreed) viewed the investment requirements as non-significant.

Despite these initial financial pressures, respondents overwhelmingly recognise the stabilising effects of subscription revenues. A combined 87.5% either strongly agreed (47.5%) or agreed (40%) that subscription models create more predictable revenue streams compared to traditional sales, with only 3.8% expressing disagreement. These results confirm that the trade-off between short-term investment intensity and long-term financial stability is widely accepted among adopters.

A further 81.3% of respondents (27.5% strongly agreed, 53.8% agreed) recognised that adjusting valuation metrics (e.g., ARR, CLV) is critical for investor communication. This underscores a broader evolution in how financial success is communicated both internally and externally. Subscription models require firms to focus less on short-term profitability and more on long-term value creation through retention, engagement, and expansion.

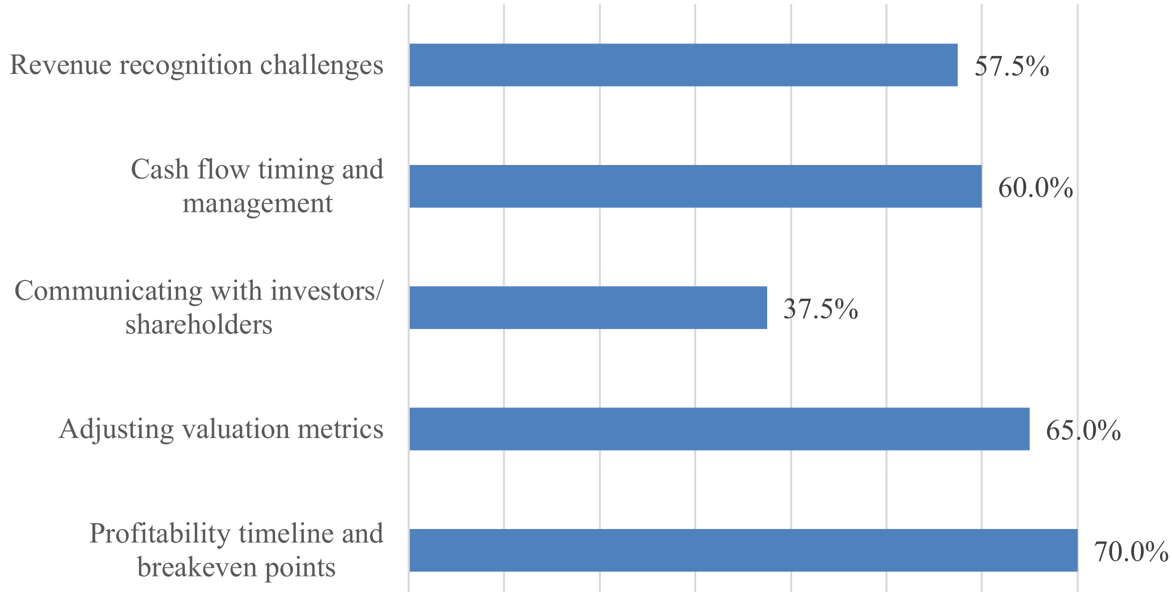

Figure 29: Financial implications identified as most critical in transitioning to subscription models

When asked to identify the most critical financial implications of transitioning to subscription models, respondents highlighted several recurring themes. The top concerns were profitability timeline and breakeven points (70%), adjusting valuation metrics (65%), and cash flow timing and management (60%). These findings reveal that while subscription models enhance predictability, they also introduce delays in revenue realisation and short-term margin compression, particularly during the migration phase from one-time transactions to recurring billing. The emphasis on valuation metrics further suggests that financial reporting adaptation is a strategic necessity, not merely an accounting adjustment. Investors increasingly prioritise indicators such as Annual Recurring Revenue (ARR) and Customer Lifetime Value (CLV) as reliable measures of performance, replacing traditional sales metrics.

Collectively, the data reveal a consensus among adopters that financial adaptation is both a challenge and an enabler of successful subscription transformation. While the transition demands upfront investment and financial restructuring, it also provides greater revenue predictability, improved forecasting, and stronger investor confidence once the new performance metrics are institutionalised. The shift toward metrics such as ARR, CLV, and Net Revenue Retention (NRR) symbolises not only a new economic model but also a new financial mindset, one that prioritises sustainability, customer value, and growth scalability over immediate returns.

5 - Conclusions

This research aimed to explore the dynamics of the transition toward subscription-based business models in the technology sector, with a specific focus on understanding how professionals perceive, implement, and manage this transformation. Drawing upon survey data collected from 80 industry professionals, the study analyzed both adopters and non-adopters of subscription models to evaluate perceptions, identify success factors, assess adoption drivers, explore key challenges, and uncover best practices and financial implications.

RQ1 – How do technology industry professionals perceive the benefits and challenges of subscription-based business models compared to traditional models?

Across both adopters and non-adopters, the findings indicate strongly positive perceptions of subscription-based business models. Among adopters and hybrids, over 85% agreed that subscriptions foster sustainable long-term growth and stronger customer relationships, while nearly 90% recognized the financial predictability these models offer. Non-adopters largely shared these views, though with slightly lower intensity of agreement.

However, perceived challenges were more pronounced among non-adopters, with over 90% agreeing that subscription models entail higher operational and cultural complexity, compared to only 40% of adopters expressing similar concern. This contrast suggests that practical experience mitigates perceived barriers, as companies already engaged in subscription strategies appear to view these challenges as manageable components of transformation rather than deterrents.

In summary, professionals perceive subscription models as strategically advantageous, particularly for enhancing stability and customer engagement, yet they remain cognizant of the organizational and operational effort required to sustain them.

RQ2 – What are the key success factors for companies transitioning to subscription-based business models in the technology industry?

Among adopters, the most critical were effective pricing strategy, strong customer success management, customer-centric culture, and leadership commitment. Non-adopters also emphasized leadership commitment and robust IT/digital infrastructure, suggesting that strategic alignment and technological capability are viewed as fundamental prerequisites for successful transformation. These findings reinforce the literature's emphasis on leadership and cultural alignment as enablers of business model innovation (Warner & Wäger, 2019; Teece et al., 2016). The prominence of pricing and customer success strategies further reflects the shift from transactional sales toward lifecycle value management, where retention and expansion are as important as acquisition.

Thus, the success of subscription transformation depends on a combination of strategic commitment, operational excellence, and customer-focused culture, supported by adaptive pricing and service management frameworks.

RQ3 – What factors influence the adoption of subscription-based models in the technology sector?

For adopters and hybrids, the most influential drivers were predictable revenue streams, customer demand and scalability and growth opportunities. In contrast, non-adopters prioritized customer demand and competitive pressure as the strongest external motivators. While both groups recognize customer expectations as central to adoption, adopters place greater emphasis on internal financial and scalability benefits, whereas non-adopters perceive adoption as a reactive necessity driven by competition. This divergence suggests a maturity gap, organizations that have already implemented subscription models view them as instruments of growth and predictability, while those yet to adopt them regard them primarily as responses to external pressures.

Overall, adoption decisions are shaped by a combination of market demand, financial stability goals, and strategic ambition, confirming that subscription transformation is both a competitive response and a proactive growth strategy.

RQ4 – What are the most common operational and cultural challenges faced by companies during the transition to subscription-based models?

Among adopters, the leading operational challenges were integration with existing business models, legacy IT systems and pricing complexity. Non-adopters largely mirrored these concerns, with slightly higher perceived difficulty levels, particularly regarding legacy systems.

Culturally, resistance to change and customer mindset shifts were the most cited barriers among adopters. These findings highlight that transformation extends beyond process redesign to involve mindset and behavioral shifts. Notably, while most adopters rated cultural change as moderately difficult, half of the non-adopters anticipated it would be very difficult, reinforcing that experience reduces perceived complexity.

The results underscore that successful transition requires addressing both technological integration and human adaptability, aligning systems, incentives, and culture around recurring value delivery.

RQ5 – What best practices can be identified from companies that have successfully shifted to recurring revenue models?

Among adopters, the most widely observed were customer success management, transparent and flexible pricing models, outcome-based performance metrics and cross-functional collaboration. Respondents also strongly agreed that cross-functional collaboration (97% combined agreement) and communication and change management (94%) are critical for cultural alignment.

These findings demonstrate that successful subscription adoption requires a cross-departmental approach to deliver a consistent customer experience. Moreover, customer success management emerged as the foundation of recurring revenue performance, directly linked to reducing churn and enhancing lifetime value.

The data aligns with prior research emphasizing that agility, collaboration, and outcome-driven metrics are crucial for sustaining innovation in subscription environments (Kowalkowski & Ulaga, 2024; Sjödin et al., 2020). In short, the best-performing organizations institutionalize adaptability, transparency, and customer engagement as strategic capabilities.

RQ6 – What are the financial implications of transitioning to subscription-based models?

Financially, the survey confirms that subscription transitions require initial investment but deliver long-term stability. Over 57% of adopters agreed that upfront investments are significant, primarily due to technology enablement, process redesign, and customer onboarding costs. However, nearly 88% acknowledged that subscriptions lead to more predictable and stable revenue streams, confirming the model’s appeal from a financial management perspective.

The most critical financial challenges identified were profitability timelines and breakeven points, adjusting valuation metrics and cash flow management. These findings indicate that while recurring revenue enhances predictability, it often delays profit realization during the transition phase. Additionally, 81.3% of respondents agreed that adjusting valuation metrics such as ARR and CLV is essential for effective investor communication.

Overall, companies that successfully align their financial metrics, reporting structures, and stakeholder communication with recurring revenue logic can transform financial challenges into strategic advantages.

Limitations

Sample Size

The study's primary limitation lies in its sample scope. The survey collected responses from 80 professionals, a sufficient number for exploratory analysis but limited for broader generalization. Furthermore, the sample was concentrated within the technology sector, with a predominance of technical specialists. This profile, while aligned with the study's focus, may have underrepresented perspectives from other functional roles such as finance, marketing, or operations, which are equally relevant in subscription transformations.

Geographical and Industry Boundaries

All participants operated within a relatively homogeneous market context, predominantly representing firms in similar technological and geographic environments. Consequently, findings may not fully capture variations across industries with different maturity levels, customer dynamics, or regulatory pressures. Broader cross-industry and cross-country data could yield additional insights into how local market conditions influence adoption strategies.

Future Work

Expansion of Industry and Geographic Scope

A larger sample would allow for more concrete conclusions regarding underrepresented segments. Expanding the sample size and segmentation, for instance, distinguishing between start-ups, mid-sized firms, and large enterprises, could yield more nuanced insights into how organizational size and maturity influence adoption strategies. Future research could also extend this analysis to other industries. Such comparative studies would help determine whether the drivers, challenges, and success factors identified here are consistent across sectors or shaped by industry-specific characteristics.

Additionally, expanding the research to a multi-country sample could illuminate the influence of regional market maturity, customer expectations, and regulatory environments on subscription model adoption. Cross-country comparisons would provide a richer understanding of how digital transformation and recurring revenue strategies interact with cultural and economic contexts.

Longitudinal and Case-Based Studies

The survey approach used in this dissertation provided a valuable snapshot of current industry perceptions. However, subscription model transformation is inherently dynamic and evolutionary. Future studies could adopt a longitudinal design, tracking organizations over several years to capture how strategies, metrics, and performance outcomes evolve during and after the transition.

Complementary qualitative case studies would also enhance understanding of the organizational processes and leadership decisions underpinning successful transformations. In-depth interviews or ethnographic studies could uncover the micro-level mechanisms, such as cultural adaptation, incentive redesign, and customer engagement practices, that quantitative surveys cannot fully capture. Future studies could also include customer-side perspectives, analyzing how end-users perceive value, trust, and satisfaction in subscription-based relationships. This dual approach, combining provider and customer viewpoints, would enable a 360-degree understanding of the subscription ecosystem.

Teaching Notes

Case Synopsis

This case study examines Cisco Systems' strategic transition from a traditional hardware-centric sales model toward a subscription-based and recurring revenue framework. Over several years, Cisco progressively transformed its portfolio, integrating software and services to align with market trends favoring digitalization, cloud computing, and customer-centric value creation.

The case explores how Cisco leveraged its digital transformation capabilities, organizational restructuring, and customer success focus to navigate the complexities of moving from one-time product sales to long-term subscription relationships. It highlights the interplay between technological innovation, business model evolution, and organizational culture change, providing students with an opportunity to analyze both strategic intent and execution challenges.

Teaching Objectives

The main objectives of this case are to:

- Understand the strategic rationale behind transitioning from transactional to subscription-based business models.
- Analyze the organizational and cultural changes required to support recurring revenue strategies.
- Evaluate the challenges and risks associated with implementing subscription and Software-as-a-Service (SaaS) models.
- Identify key success factors and best practices in executing business model transformation in established technology firms.
- Encourage students to connect theory with practice by applying frameworks such as business model innovation, digital transformation, and organizational change management.

Discussion Questions

1. How does a recurring revenue model change a company's value proposition and customer relationship strategy?

2. What risks does a company face when shifting from product ownership to access-based offerings?
3. What role does “customer success management” play in ensuring the long-term sustainability of subscription models?
4. How do subscription models affect revenue recognition, cash flow management, and investor expectations?

Suggested Answers

1. Value Proposition Shift: Moving to a recurring model changes the focus from product ownership to continuous value delivery. Instead of a one-time transaction, the company’s offering becomes a service experience, emphasizing outcomes, reliability, and customer satisfaction. Cisco reframed its value proposition from selling routers and switches to delivering network performance, security, and collaboration outcomes. This aligns with the literature on business model innovation (Foss & Saebi, 2017; Clauß, 2017), which emphasizes continuous value creation and adaptive revenue mechanisms.

Customer Relationship: The customer relationship evolves into an ongoing partnership. Firms must invest in customer success management, proactive engagement, and retention strategies.

Survey results showed that 75% of respondents agreed or strongly agreed that subscription models strengthen customer relationships. Customer lifetime value (CLV), churn rates, and net revenue retention (NRR) become key success metrics. Companies must reorganize around customer-centric cultures and develop data-driven insight capabilities to monitor customer behavior and adapt offerings accordingly.

(Read 2 - Literature Review – 2.2 Business Model Innovation: Redesigning Value Creation, 3 - Case Study – Cisco - 3.3 Cisco’s Subscription Journey and 4 – Market Research - 4.2 Perceptions of Subscription Models)

2. Operational Risks: Managing a subscription model requires new IT systems, analytics capabilities, and pricing models. In the survey, 79% of adopters cited “integration with existing business models” as a major operational challenge. Legacy infrastructure and complex revenue recognition processes (57.5% of respondents) further complicate transitions.

Cultural and Organizational Risks: The shift demands a cultural transformation, employees must adopt long-term customer engagement mindsets rather than short-term sales goals. Resistance to change (69%) and customer education and mindset shift (71%) were top challenges among adopters.

Financial Risks: The model involves upfront investment and delayed profitability. Survey data showed 65% identified adjusting valuation metrics and 70% identified profitability timeline as critical financial challenges.

(Read 3 - Case Study – Cisco - 3.2 Operational and Organizational Transformation/3.3 Cisco's Subscription Journey and 4 – Market Research - 4.5 Business Challenges)

3. Retention and Churn Reduction: Customer success management (CSM) ensures that clients continuously realize value, reducing churn and increasing renewals. 72% of respondents identified CSM as a best practice, and 90% agreed or strongly agreed it was critical to reducing churn.

Revenue Growth and Expansion: CSM teams drive upselling, cross-selling, and contract expansion, directly influencing Net Revenue Retention (NRR), a key SaaS metric.

Feedback and Innovation: CSM provides structured feedback loops from customers to product teams, fostering innovation aligned with real needs, consistent with Cisco's "Customer Experience (CX)" initiative.

(Read 3 - Case Study – Cisco - 3.2 Operational and Organizational Transformation/3.3 Cisco's Subscription Journey and 4 – Market Research - 4.3 Key Success Factors/4.6 Best Practices)

4. Revenue Recognition: Revenue is recognized over the contract period rather than upfront, affecting financial statements and requiring new accounting processes. 57.5% of respondents identified revenue recognition as a key financial challenge.

Cash Flow Timing: Subscription models involve delayed revenue collection, especially when customers pay monthly. 60% of respondents cited cash flow timing as a concern.

Investor Communication: Investors must be educated about new valuation metrics, ARR, CLV and NRR, as short-term revenue may appear lower. 65% of respondents considered adjusting valuation metrics critical for stakeholder communication.

Financial Stability and Predictability: Despite short-term strain, over time, recurring models offer stable, predictable income streams, with 87.5% agreeing or strongly agreeing that subscription models improve financial predictability.
(Read 3 - Case Study – Cisco - 3.2 Operational and Organizational Transformation/3.3 Cisco's Subscription Journey and 4 – Market Research - 4.7 Financial Implications)

Appendices

Appendix I – Survey

Profile of Respondents

Q1. What is your current role in the technology sector?

Q2. How many years of experience do you have in the technology industry?

Q3. Has your company adopted a subscription-based business model?

Q4. Adopters & Hybrids: What type of subscription model does your company primarily use? (select all that apply)

Perceptions of Subscription Models

For each statement, please indicate your level of agreement:

(Scale: 1 = Strongly Disagree → 5 = Strongly Agree)

Q5. Subscription-based business models provide more sustainable long-term growth than traditional one-time sales.

Q6. Subscription models strengthen customer relationships.

Q7. Subscription models increase financial predictability and stability.

Q8. Subscription models create higher operational and cultural challenges compared to traditional models.

Key Success Factors

Q9. Adopters & Hybrids: In your opinion, what are the most critical success factors in transitioning to subscription models? (select top 3 priority)

Q9. Non-adopters & Considering: Which factors do you believe would be most critical for a company transitioning to subscription models? (select top 3 priority)

Adoption Drivers

Q10. Adopters & Hybrids: What factors most strongly influence the adoption of subscription-based models in the technology industry? (select all that apply)

Q10. Non-adopters & Considering: In your opinion, which factors would most strongly influence the adoption of subscription-based models in the technology industry? (select all that apply)

Q11. To what extent do you agree with the following:

"Market competition is the primary driver for subscription model adoption."

Business Challenges

Q12. Adopters & Hybrids: What are the biggest operational challenges during transition to subscription models? (select all that apply)

Q12. Non-adopters & Considering: Which do you anticipate as the biggest operational challenges during transition to subscription models? (select all that apply)

Q13. Adopters & Hybrids: What are the biggest cultural/organizational challenges? (select all that apply)

Q13. Non-adopters & Considering: Which do you anticipate as the biggest cultural/ organizational challenges? (select all that apply)

Q14. Adopters & Hybrids: Rate the level of difficulty of cultural change in your company when moving toward subscription models.

Q14. Non-adopters & Considering: How difficult do you expect cultural change would be if your company were to transition toward subscription models.

Best Practices

Q15. Adopters & Hybrids: Which best practices have you observed driving successful subscription adoption? (select all that apply)

For each statement, please indicate your level of agreement:

(Scale: 1 = Strongly Disagree → 5 = Strongly Agree)

Q16. Customer success management is critical to reducing churn.

Q17. Cross-functional collaboration (sales, marketing, IT, finance) is essential for success.

Q18. Strong communication and change management are critical to cultural alignment.

Financial Implications

For each statement, please indicate your level of agreement:

(Scale: 1 = Strongly Disagree → 5 = Strongly Agree)

Q19. Transitioning to subscription models requires significant upfront investment.

Q20. Subscription models create more predictable revenue streams compared to traditional sales.

Q21. Adjusting valuation metrics (e.g., ARR, CLV) is critical for investor communication.

Q22. Which financial implications do you consider most critical in transitioning to subscription models? (select all that apply)

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