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Customer Development Plan for Quzhou Tengyue Network Co.,Ltd.

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MSc in Business Administration

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Department of Marketing, Operations and General Management

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Abstract

Quzhou's digital services market is expanding yet increasingly competitive. Customers now expect integrated connectivity bundles that combine broadband access with cloud, security, and managed support rather than stand-alone internet lines. Tengyue, a regional ISP, faces slowing growth, rising churn, and intensified competition from national carriers and over-the-top platforms, while 5G and AI-enabled operations raise expectations for reliability and responsiveness. This thesis develops a customer development plan that strengthens customer acquisition, customer development (expansion and cross-sell), and customer retention, while remaining consistent with a staged strategic transformation roadmap. Objectives are to: (1) diagnose the competitive position and capability gaps using external and internal analyses; (2) establish a customer management framework (segmentation, CLV logic, CRM-enabled processes) that guides acquisition and retention decisions; (3) design a phased roadmap for N to N+4 that aligns portfolio, service model, brand, capabilities, infrastructure, and partnerships; and (4) define measurable KPIs and governance for acquisition efficiency (e.g., CAC and conversion), customer economics (ARPU and CLV), and retention (churn, multi-service adoption, and cross-sell). The methodology integrates literature review and benchmarking; quantitative analysis of simulated customer data (RFM segmentation and CLV modeling); PESTEL and SWOT analyses; stakeholder interviews; and a Balanced Scorecard to translate strategy into execution. Findings suggest that Tengyue's local trust and service responsiveness are defensible advantages, but limited service breadth and underdeveloped customer management capabilities weaken differentiation and increase churn risk. The proposed plan prioritizes CRM and data foundations, structured sales and customer success routines, and partner-enabled service bundles that raise switching costs and lifetime value.

Keywords: Digital Transformation; Telecommunications Industry; Competitive Advantage; Balanced Scorecard; Strategic Planning

JEL Classification: L96; M21

Resumo

O mercado de serviços digitais em Quzhou, Zhejiang, continua a crescer, mas tornou-se mais competitivo e comoditizado. Os clientes passam a exigir pacotes integrados de conectividade, cloud, segurança e suporte gerido, em vez de acesso isolado à internet. A Tengyue, um ISP regional, enfrenta abrandamento do crescimento, aumento do churn e concorrência reforçada por operadores nacionais e plataformas OTT. Esta tese propõe um plano de desenvolvimento de clientes que reforça a aquisição, o desenvolvimento (expansão e venda cruzada) e a retenção, mantendo coerência com um roteiro faseado de transformação estratégica. Os objetivos são: (1) diagnosticar a posição competitiva e os drivers de valor do cliente com análises externa e interna; (2) construir um enquadramento de gestão de clientes (segmentação, lógica de CLV e processos suportados por CRM); (3) desenhar um roteiro faseado de N a N+4 alinhando portfólio, modelo de serviço, marca, capacidades e parcerias; e (4) definir KPIs e governance mensuráveis para eficiência de aquisição (CAC e conversão), economia do cliente (ARPU e CLV) e retenção (churn e adoção multi-serviço).

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Glossary

5G – Fifth-generation mobile network technology, offering high speeds and low latency. ((ITU, 2020); (GSMA, 2023))

AI – Artificial Intelligence. Simulation of human intelligence processes by computer systems. ((McKinsey, 2020))

ARPU – Average Revenue Per User. A telecommunications metric indicating the average revenue generated per user or unit. ((Deloitte, 2023); (McKinsey, 2020))

CLV (CLTV) – Customer Lifetime Value. The total worth of a customer to a business over the whole period of their relationship. ((Gupta & Lehmann, 2005); (Rust et al., 2004))

IoT – Internet of Things. Network of physical objects embedded with sensors and connectivity enabling them to collect and exchange data.

ISP – Internet Service Provider. A company that provides services for accessing and using the Internet. ((Deloitte, 2023); (McKinsey, 2020))

KPI – Key Performance Indicator. A measurable value that demonstrates how effectively an organization is achieving key objectives.

OTT – Over-The-Top services. Digital services (e.g., messaging or streaming apps) delivered over the internet by third parties, bypassing traditional telecom operators. ((Deloitte, 2023); (McKinsey, 2020))

PESTEL – Political, Economic, Social, Technological, Environmental, and Legal analysis. A framework for macro-environmental strategic analysis. ((Oxford College of Marketing, 2016))

RFM – Recency, Frequency, Monetary value. A model for analyzing customer value based on purchase/use recency, frequency, and monetary spend. ((Rust et al., 2004))

SME – Small and Medium-sized Enterprise. A business organization which falls below certain size thresholds in terms of employees and revenue.

SWOT – Strengths, Weaknesses, Opportunities, Threats. A framework for identifying internal strengths/weaknesses and external opportunities/threats of an organization.

1. Introduction

Tengyue is a regional Internet Service Provider operating in Quzhou, China, that has built a loyal local customer base through reliable broadband connectivity and personalized service. However, the business environment around Tengyue has changed dramatically. Basic connectivity has become a commoditized utility service, and customers now expect integrated digital solutions (for example, internet access bundled with cloud storage, cybersecurity, smart home networking, etc.) rather than stand-alone internet lines. At the same time, large national telecom carriers and emerging over-the-top (OTT) service providers have entered the regional market with aggressive pricing and feature-rich offerings, putting pressure on Tengyue's growth. Technological shifts like 5G mobile networks, fiber broadband expansion, and AI-driven network management have raised the bar for service quality—small providers risk falling behind if they do not invest in new capabilities. Additionally, government initiatives in Zhejiang (such as the Digital Zhejiang strategy) are promoting digital economy development, encouraging all players to innovate and upgrade. This evolving context calls for Tengyue to move beyond its traditional role as a simple ISP and transform into a provider of diverse digital services in order to stay competitive and relevant.

Problem Statement: Tengyue's current business model and service portfolio are not sufficient to ensure sustained growth and competitiveness over the next five years. The company's historical strengths—local network reliability and customer service—are valuable but not enough by themselves in the face of commoditization and changing customer demands. Without strategic action, Tengyue faces multiple risks: loss of market share (as price-sensitive customers switch to national providers offering cheaper bundles), rising customer churn due to lack of differentiated services or advanced features, missed opportunities for new revenue (since customers must turn to other providers for cloud, IoT, or advanced solutions that Tengyue doesn't offer), and potential technological obsolescence (if Tengyue fails to adopt emerging technologies while competitors do). In short, Tengyue could experience strategic drift and erosion of its competitive advantage if it remains on its present course.

Objectives and Approach: This thesis addresses the problem by formulating a strategic transformation roadmap for Tengyue. The objectives are to: (1) assess Tengyue's internal

strengths, weaknesses, and core competencies as well as external opportunities and threats; (2) identify and prioritize high-potential growth avenues (such as managed cloud services, smart-home IoT integration, and regional data center partnerships); (3) develop a phased transformation plan for N–N+4 that aligns Tengyue's product offerings, service model, brand positioning, organizational capabilities, infrastructure, and ecosystem alliances with market needs; and (4) establish measurable KPIs and governance mechanisms to track progress (including metrics like customer acquisition cost, ARPU, churn rate, cross-sell ratio, and innovation-driven revenue share). To achieve these aims, we employed a mixed-methods approach combining qualitative insights (literature review, stakeholder interviews, Delphi expert input) and quantitative analysis (simulated customer data modeling and benchmarking of industry cases). The thesis is structured in six chapters. After this Introduction, Chapter 2 reviews relevant literature on digital transformation, competitive strategy, platform business models, strategic frameworks, and customer-centric metrics. Chapter 3 explains the research methodology, including data collection and analysis techniques used. Chapter 4 presents the analysis and findings on Tengyue's current situation (internal and external analysis) and synthesizes them in a SWOT summary. Chapter 5 outlines the strategic recommendations, detailing the transformation roadmap, Balanced Scorecard targets, and implementation plan. Finally, Chapter 6 concludes the study by discussing how the findings meet the research objectives, noting limitations, and suggesting directions for future research.

2. Literature Review

(This chapter provides a synthesis of relevant literature across five key areas related to Tengyue's transformation. Section 2.1 examines digital transformation in SMEs and the telecom industry. Section 2.2 covers competitive strategy theory and the Resource-Based View. Section 2.3 explores platform-based business models and network effects. Section 2.4 discusses strategic analysis frameworks (PESTEL, SWOT, Balanced Scorecard). Section 2.5 reviews customer-centric metrics (RFM, CLV, churn) crucial for growth. Together, these themes establish the theoretical foundation for Tengyue's strategic transformation.)

2.1 Digital Transformation in SMEs and Telecom Industry

Digital transformation refers to the process by which organizations adopt and integrate digital technologies into their business models, operations, and customer engagements to fundamentally improve performance or reach. For Small and Medium-sized Enterprises (SMEs) like Tengyue, digital transformation is often challenging due to resource constraints, but it has become increasingly critical for survival and growth. According to recent studies, SMEs that successfully implement digital strategies can reap significant benefits such as increased innovation, better customer experience, and higher operational efficiency. Bolat (2020) emphasizes that SMEs must evolve digitally not only to improve internal processes but also to meet changing customer expectations in the digital age. This is highly relevant to Tengyue, which faces customers expecting more sophisticated digital services. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

One impetus for SME digital transformation has been the COVID-19 pandemic, which accelerated the adoption of digital tools among smaller firms (Papadopoulos et al., 2020). SMEs were forced to digitize customer interactions, move services online, and leverage cloud solutions to remain operational during lockdowns. While Tengyue is in the telecom sector and thus inherently tech-oriented, the company's need to transform stems from market evolution rather than a sudden crisis. Nonetheless, the general lesson is that external pressures (whether a pandemic or competitive tech disruptions) can catalyze transformation – and proactive adaptation is better than reactive. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

In the telecommunications industry specifically, digital transformation often involves transitioning from being a traditional connectivity provider to becoming a "digital service

provider." This means telcos develop new digital services, automate and analyze operations with data, and create omnichannel digital customer experiences. A report by MIT Technology Review (2019) noted that telecom operators globally are investing in cloud infrastructure, AI, and advanced analytics to modernize their networks and personalize services. A core driver is the need to manage exploding data traffic efficiently and to create revenue streams beyond basic connectivity, such as IoT services, data analytics offerings, or cloud computing services. These trends echo Tengyue's need to integrate cloud and IoT into its portfolio. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

In China, the digital transformation of telecommunications aligns with national initiatives. The concept of the "Industrial Internet" and smart infrastructure is part of the broader "Digital China" strategy. State-owned telecom operators like China Unicom have embarked on ambitious digital transformation programs – for example, integrating AI into network management and developing cloud-data services for enterprises. China Unicom's "Digital Transformation 2.0" strategy explicitly focuses on cloudification of its services and deploying AI for intelligent operations. This case demonstrates that even large incumbents see the writing on the wall: connectivity must be complemented with digital innovation. For a smaller player like Tengyue, this implies that it should leverage its agility and local focus to implement transformation on a smaller scale – effectively becoming the local champion of digital services in Quzhou, even as the giants pursue similar objectives at a macro level. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

However, SMEs face specific challenges in digital transformation. A systematic literature review by Vial (2019) identified barriers such as lack of digital strategy, insufficient expertise, financial constraints, and cultural resistance. SMEs might not have dedicated innovation teams or large budgets for new technology investments. In Tengyue's case, being relatively small compared to national carriers, careful prioritization of investments is crucial. One study focusing on SMEs by Sagala et al. (N-1) proposed a digital transformation strategy framework aimed at building resilience and antifragility in SMEs. The framework suggests that SMEs should focus on enhancing dynamic capabilities – the ability to sense new opportunities, seize them by reconfiguring resources, and transform accordingly. This aligns with Tengyue's need to sense and seize the cloud/IoT opportunity and transform its business model. Sagala et al. also highlight

the importance of leadership vision and employee skills in driving change (human factors often outweigh technological factors). ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

For telecom SMEs, partnering can be an effective strategy to overcome limitations. As noted by Niewiadomski (2020), smaller ISPs can partner with technology firms or platform providers to deliver services that they cannot develop alone. For instance, an ISP could resell a larger cloud provider's services under its own brand (a form of white-label partnership) to quickly add cloud offerings without huge R&D expense. This is a rising trend; industry publications list strategies like choosing the right technology partners and focusing on core strengths as key for SME digital transformation. Tengyue should consider such collaborative approaches – e.g. partnering with Alibaba Cloud to offer cloud solutions to local businesses, where Tengyue handles local sales/support and Alibaba provides the backend infrastructure. This way, Tengyue extends its value proposition efficiently. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

Impact on Competitive Advantage: Digital transformation is closely tied to sustaining competitive advantage in fast-changing markets. A study by Warner & Wäger (2019) found that SMEs engage in digital transformation to achieve either differentiation (offering new digital services or superior customer experience) or cost leadership (through automation and efficiency gains). For Tengyue, digital transformation can drive differentiation – for example, being the only provider in the local market that offers a fully integrated "connectivity + security + cloud backup" package could set it apart from rivals. Additionally, digital tools like advanced analytics can improve decision-making and operational efficiency, indirectly reducing costs (e.g. more efficient network maintenance through predictive analytics, or lower customer support costs through AI chatbots). The balanced pursuit of these benefits is crucial for Tengyue's strategy. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

In summary, literature clearly indicates that SMEs in the telecom sector must embrace digital transformation to remain competitive. Effective digital transformation requires a strategic vision, investment in new technologies, upskilling of staff, and often leveraging partnerships. It is not purely about technology for technology's sake, but about using technology to deliver greater value to customers and streamline operations. The following sections delve into strategy theories and frameworks that complement this understanding by focusing on how Tengyue can leverage

its resources and navigate the strategic planning of such a transformation. ((Vial, 2019); (Kraus et al., 2022); (Warner & Wäger, 2019))

2.2 Competitive Strategy and Resource-Based View

To craft a strategic transformation roadmap, it is essential to ground our approach in competitive strategy theory. One foundational perspective in strategic management is the Resource-Based View (RBV) of the firm. RBV posits that the key to sustained competitive advantage lies in the firm's internal resources and capabilities, rather than solely in positioning against external forces (Barney, 1991). According to RBV, a firm can achieve superior performance if it possesses resources that are valuable, rare, inimitable, and organized to capture value – commonly referred to as the VRIO framework. If a resource or capability meets all VRIO criteria, it can be a source of sustained competitive advantage. ((Barney, 1991))

In practice, resources include not just physical assets or technology, but also intangible assets like brand reputation, knowledge, organizational processes, and human skills. For Tengyue, applying RBV means identifying what internal strengths it currently has (or can develop) that competitors cannot easily replicate. For example, Tengyue's local brand reputation and relationships in Quzhou might be a valuable and somewhat rare resource – it is known and trusted by local customers in a way that big national carriers might not be. If that trust results in customer loyalty or a willingness to try new Tengyue services, it can be leveraged as a competitive advantage. However, RBV also forces us to consider if such an asset is inimitable – could a competitor build a similar local presence? Possibly, but Tengyue's first-mover history in the region gives it an edge that would take time for others to match. The resource must also be organized – meaning Tengyue must have the management systems to exploit it (e.g. effective local marketing to capitalize on its brand). ((Barney, 1991))

Another framework related to RBV is the concept of Core Competencies (Prahalad & Hamel, 1990). Core competencies are bundles of skills and technologies that enable a company to provide unique value. They are often described as the "collective learning" in the organization, especially in how to coordinate diverse skills and integrate multiple technologies. A classic example is how Honda's core competency in engines allowed it to excel in cars, motorcycles, and even lawnmowers. For Tengyue, a potential core competency could be its capability to provide reliable network connectivity in difficult terrains or last-mile connections, or perhaps its customer

service quality. Identifying and nurturing core competencies is vital because the strategic transformation should build on these – transforming Tengyue in a direction that amplifies what it's already good at, rather than forcing it into areas where it has no competency. ((Barney, 1991))

In contrast to RBV's inward focus, Porter's competitive forces and generic strategies frameworks emphasize outward positioning. According to Porter (1985), to achieve competitive advantage, a firm must either perform different activities from rivals, or perform the same activities in different ways. Porter outlined three generic strategies: cost leadership, differentiation, or focus. Tengyue historically might have been more of a *focus differentiator* – focusing on a regional market niche and differentiating through local presence and service. As it transforms, it must consider how it will position itself: will it attempt cost leadership (unlikely, given scale disadvantages against national carriers), or differentiation (more plausible, by offering integrated services or superior customer experience), or focus (continuing to concentrate on the local/regional market and tailoring services accordingly). The transformation roadmap can be seen as Tengyue shifting its differentiation basis from "just a local ISP" to "local digital service champion." ((Barney, 1991); (Porter, 1985))

However, some strategists argue against a pure dichotomy of internal vs external focus – a balanced approach is needed. Modern strategy highlights dynamic capabilities (Teece, 2007) as critical: the ability of a firm to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities are essentially RBV in motion – not just having valuable resources, but being able to refresh and adapt them. For a transformation project, Tengyue will need dynamic capabilities such as agility in new service development and a learning-oriented culture to quickly catch up with tech trends. Building such capabilities (through training, hiring, or process changes) is part of strategic planning. ((Barney, 1991); (Teece, 2007))

The Value Chain framework by Michael Porter is a tool to dissect the firm's activities and see where competitive advantage can be derived. Porter categorized activities as primary activities (Inbound Logistics, Operations, Outbound Logistics, Marketing & Sales, Service) and support activities (Procurement, Technology Development, Human Resource Management, Firm Infrastructure). Analyzing Tengyue's value chain can reveal inefficiencies or strengths at each stage. For instance, Tengyue's *Operations* (network operations center, maintaining uptime) might be a strength if it consistently delivers high network availability. Its *Service* (customer support)

might be a strength if local customers value the quick, personalized support Tengyue provides. On the other hand, *Marketing & Sales* could be a weakness if Tengyue historically relied on word-of-mouth and lacks sophisticated marketing capabilities to promote new services. Each stage of the value chain can be a point of differentiation or cost efficiency. The transformation should target improvements along the value chain – for example, implementing a modern CRM system (support activity: Technology Development) to improve marketing and service, or streamlining procurement for network equipment to reduce costs. ((Porter, 1985); (Jurevicius, 2013))

The value chain analysis also ties to RBV: the effectiveness of each activity depends on the firm's resources/capabilities at that stage. If Tengyue's human resources (HR management as a support activity) are skilled and motivated, operations and service quality will be higher. If not, even the best strategy will falter in execution. Some literature suggests a resource-based analysis of the value chain – identifying which activities Tengyue performs better than rivals and why, and which ones need bolstering. According to Jurevicius (2013), if a firm finds certain primary activities are key to value creation, it should invest in making those world-class, possibly by reallocating resources from less critical activities. For example, if customer service is Tengyue's differentiator, increasing training and tools for support staff could yield high returns. ((Porter, 1985); (Jurevicius, 2013))

It is also important to consider sustainability of advantage. As RBV notes, not all advantages are sustainable; if resources are easily imitated or substituted, the advantage erodes. Telecommunications is known for technological imitation – competitors can often replicate new services (e.g. if Tengyue launches a cloud service, a competitor can too, perhaps with vendor support). But some assets, like a deep understanding of local customer needs or a well-ingrained service culture, are harder to copy. A study by Mata, Fuerst & Barney (1995) specifically looked at IT in telecom and found that while technology itself is often imitable, the skills to effectively use technology can be a more sustainable source of advantage. For Tengyue, this means that simply obtaining new technology (e.g. a cloud platform) is not enough – it must cultivate the organizational capabilities to deploy and support that technology in ways competitors cannot easily match. ((Barney, 1991))

2.3 Platform-Based Business Models and Network Effects

Platform-based business models have become prominent in the digital economy, characterized by two-sided (or multi-sided) markets and strong network effects (Parker et al., 2016; Rochet & Tirole, 2003). In such models, the value of the platform's service increases as more participants join, creating a self-reinforcing growth dynamic. Classic examples include social media platforms, e-commerce marketplaces, or app stores, where more users attract more complementary users or producers, and vice versa.

In the context of telecommunications and Tengyue's strategic transformation, the concept of a platform business model is relevant in two ways. First, larger telecom companies are evolving into digital platforms themselves – for instance, by offering app marketplaces, content platforms, or IoT ecosystems that connect producers of digital services with end-users. Second, Tengyue could consider positioning itself as a local or regional platform for digital services. For example, Tengyue might not develop all services in-house, but it could act as the aggregator or marketplace through which local customers access various digital solutions (connectivity, cloud storage, IoT device management, etc.). By doing so, Tengyue would facilitate interactions between service providers (e.g. a cloud provider, a smart device vendor) and local customers, capturing value as the intermediary.

Network effects would be an important factor in such a strategy. If Tengyue can build a base of users for a new service (say, a local business cloud platform), the utility for other potential users or partners grows – for instance, a local developer might be more inclined to offer a niche application via Tengyue if there is a substantial user base already engaged. While Tengyue's scale is currently limited, even small network effects can create local competitive advantage (e.g., if many businesses in Quzhou join Tengyue's platform, it becomes the go-to channel for others). Parker et al. (2016) argue that even traditional firms can leverage network effects by creating ecosystems around their core products.

Another aspect of platform models is openness and partnerships. Rochet & Tirole (2003) highlight that managing a platform often involves deciding how open it is to third parties. For Tengyue, adopting a platform approach might mean forming partnerships with app developers, content providers, or hardware companies to offer their services through Tengyue's interface. This aligns with earlier discussions (Section 2.1) on partnerships as a strategic move for SMEs:

by becoming a platform orchestrator, Tengyue could punch above its weight, offering a range of services without building each one.

It's worth noting that not all platform strategies would be feasible for Tengyue. True multi-sided platforms require significant user base and technological infrastructure. However, a localized platform (for example, a community portal for smart city services or a business cloud exchange for Quzhou companies) might be within reach. The network effects in a local platform manifest as community trust and engagement – something Tengyue may already have through its local reputation.

In summary, platform-based models and network effects literature suggest that Tengyue should consider opportunities to create or join digital ecosystems. Even if Tengyue remains primarily a service provider, thinking in terms of platforms (where multiple stakeholders derive increasing value from participation) can inform its growth strategy – such as enabling third-party integrations or fostering user communities around its new services.

2.4 Strategic Frameworks: PESTEL, SWOT, and Balanced Scorecard

Tengyue's transformation planning can be guided by several well-established strategic analysis frameworks. PESTEL analysis provides a structured way to evaluate the macro-environment: Political, Economic, Social, Technological, Environmental, and Legal factors (Helms & Nixon, 2010). In this thesis, we use PESTEL to understand external forces in Section 4.2. For instance, political/regulatory support for digital infrastructure or legal requirements for data protection can significantly impact Tengyue's strategy. PESTEL ensures that our roadmap aligns with macro trends (like government digital economy initiatives) and anticipates external challenges (such as new competitors or economic shifts).

The SWOT framework (Strengths, Weaknesses, Opportunities, Threats) is employed to synthesize internal and external analysis (Helms & Nixon, 2010). In Chapter 4, we present a SWOT summary that distills Tengyue's key strengths and weaknesses (internal factors identified from the value chain and resource analysis) against the opportunities and threats in its external environment (surfaced from PESTEL and competitive analysis). SWOT is valuable for highlighting the strategic gaps – for example, Tengyue's lack of cloud services is a weakness occurring amidst a clear market opportunity for cloud offerings. By putting these in one view,

SWOT helps ensure our recommendations address weaknesses and leverage strengths while seizing opportunities and mitigating threats.

The Balanced Scorecard (BSC) (Kaplan & Norton, 1996) is a strategic management framework we use in this thesis to translate Tengyue's strategy into specific objectives and performance indicators (Section 5.3). The BSC looks at four perspectives: Financial, Customer, Internal Process, and Learning & Growth. We design a strategy map and KPIs such that, for example, Tengyue's financial goals (e.g. revenue from new services) are linked to customer goals (e.g. higher satisfaction and cross-sell rates), which are in turn supported by internal process improvements (e.g. faster service deployment) and learning & growth initiatives (e.g. employee training in cloud technologies). This framework ensures that our transformation plan is balanced – not focusing on just one aspect like finance at the expense of customer or internal capabilities. It also provides a mechanism for governance: Tengyue's management can monitor BSC metrics (like churn rate, new service revenue, employee skill metrics) to track progress. We will propose specific BSC targets (for N+4) to align with the thesis objectives, such as reducing annual churn below 10% and achieving over 20% revenue from innovative services, consistent with the transformation vision.

In summary, these strategic frameworks (PESTEL, SWOT, and BSC) are applied in combination to ensure Tengyue's transformation roadmap is comprehensive and grounded in both analysis and actionable plans. PESTEL and SWOT inform the strategy formulation, while the Balanced Scorecard links strategy to implementation and performance tracking. Using these frameworks from literature provides rigor to our approach and makes the strategy more robust and measurable.

2.5 Customer management – acquisition, development and retention

Customer management connects strategy to measurable revenue outcomes by structuring how a firm acquires customers, develops relationships, and reduces churn (Payne & Frow, 2005). In ongoing service relationships, customer management should be designed as cross-functional, process-oriented "relationship systems" (not merely a software implementation), because value creation, multichannel delivery, and performance measurement must reinforce each other to produce durable performance outcomes (Reinartz et al., 2004).

Customer acquisition and acquisition efficiency. Customer acquisition encompasses identifying attractive segments, generating leads, converting them to paying customers, and onboarding them into recurring usage (Blattberg & Deighton, 1996). In subscription-like markets, acquisition quality matters as much as acquisition volume: customer defections can force a firm to repeatedly "buy back" its base, eroding profitability (Berger & Nasr, 1998). Acquisition decisions should therefore be grounded in customer-economics logic—especially Customer Lifetime Value (CLV) and customer equity—so that Customer Acquisition Cost (CAC), discounts, and channel investments remain proportional to expected lifetime contribution (Gupta & Lehmann, 2003).

For a regional ISP such as Tengyue, acquisition operational activities can be specified as: (i) defining segment-specific ideal customer profiles (ICPs) (e.g., residential customers with high streaming/gaming needs versus SMEs with high downtime costs); (ii) using local channels to lower CAC (property management offices, neighbourhood committees, local business associations) (Ascarza et al., 2018); (iii) setting transparent service promises (speed, latency, support windows) aligned with segment value drivers; and (iv) onboarding routines that minimise "time-to-value" (fast installation, Wi-Fi optimisation, baseline security configuration for SMEs). These activities directly influence early-life retention, which has disproportionate impact on long-run economics (Hilton et al., 2020).

Customer development across the relationship lifecycle: the loyalty ladder. Customer development aims to increase relationship value via cross-sell, up-sell, packaging, and service upgrades. Relationship marketing literature frames development as moving customers up a loyalty ladder — Prospect → Purchaser → Client → Supporter → Advocate → Partner — reflecting increasing commitment and depth of exchange. Each stage implies different value expectations and therefore different managerial actions (Christopher et al., 2002).

At the Prospect and Purchaser stages, the core objective is to deliver a reliable and simple first experience, because early service failures can permanently reduce engagement and willingness to adopt higher-value bundles (Christopher et al., 2002). At the Client stage (repeat purchase/renewal), the objective is to broaden and stabilize usage through explicit "offer ladders" (entry package → bundle → premium managed add-ons) and to make value measurable (e.g.,

uptime, faster incident resolution, security posture improvements) (Morgan & Hunt, 1994). At the Supporter and Advocate stages, the firm should convert satisfaction into behaviors that strengthen economics: reviews, referrals, and community influence, tracked in CRM as "earned acquisition" that can lower future CAC. At the Partner stage (especially in B2B), the relationship becomes collaborative—joint planning, SLAs, and co-designed solution roadmaps—which stabilizes retention and can create defensible differentiation (Burnham et al., 2003).

For Tengyue's core business, the loyalty ladder can be operationalized through explicit "next best activity" playbooks. For example, a Purchaser of basic broadband can be nudged into Client status through router optimization and rapid support routines, and then into Supporter/Advocate status through bundled value-added services (e.g., smart home security monitoring or cloud backup) plus referral incentives (Hochstein et al., 2023). For SME accounts, moving toward a Partner relationship requires structured customer success routines (regular service reviews, adoption tracking, and planned expansion), consistent with the emerging academic view that customer success complements sales and service to improve retention by improving customer value realization (Hilton et al., 2020).

Customer retention and relationship marketing. Retention focuses on preventing churn through perceived value, reliability, and proactive interventions (Tax et al., 1998). Commitment-trust theory argues that trust and relationship commitment are central mediators of successful relationship marketing and therefore influence long-term relational stability. (Morgan & Hunt, 1994). Additionally, switching costs—procedural, financial, and relational—can influence intentions to stay beyond satisfaction alone, providing a mechanism for reducing defections through bundle depth and multi-service integration. (Burnham et al., 2003). In service contexts, complaint handling and service recovery are particularly important because they can repair or destroy relationship perceptions after failures (Reichheld & Sasser, 1990).

In telecom-like settings, retention mechanisms should be designed as a system that combines: (i) technical service quality (uptime, latency, proactive monitoring); (ii) operational service excellence (transparent incident communication, escalation standards, field-service speed); and (iii) commercial discipline (renewal workflows for contracts, tailored save offers for at-risk segments) (Ascarza et al., 2018). Data-driven retention also requires profit-driven targeting,

because “customers at highest risk” are not always the customers who should be targeted, and retention campaigns can be ineffective or value-destructive if mis-targeted (Verbeke et al., 2012).

CLV analysis and customer economics. CLV is the discounted present value of future cash flows a customer generates, net of serving and relationship costs. CLV is critical for three reasons (Berger & Nasr, 1998). First, it links marketing and service decisions to economic outcomes, providing discipline for CAC limits, bundle pricing, and retention invest-or-not decisions (Blattberg & Deighton, 1996). Second, it supports differentiated service design: high-CLV segments justify richer onboarding and account management, while low-value segments require standardized low-touch processes. Third, it allows management to evaluate growth paths using customer equity logic (balancing acquisition and retention spending) rather than relying on short-run revenue alone (Gupta & Lehmann, 2003).

For Tengyue, CLV analysis should explicitly incorporate the roadmap’s value levers: retention improvement (lower churn), expansion (multi-service adoption that raises ARPU), and changes in cost-to-serve due to digital channels and process automation (Gupta & Lehmann, 2003). Practically, this means using CLV to priorities which customers should be targeted for early bundle pilots (e.g., SMEs with high downtime costs), who should receive proactive customer success attention, and where price discounting should be limited because it would extend payback beyond a rational horizon (Hochstein et al., 2023).

CRM and data analytics as enabling capabilities. CRM operationalizes customer management by supporting structured workflows across the full lifecycle: lead and opportunity management (initiation), service and relationship management (maintenance), and churn/win-back management (termination and reactivation) (Reinartz et al., 2004). A process view of CRM emphasizes that disciplined execution of these processes—supported by data quality and cross-functional coordination—can influence firm performance (Payne & Frow, 2005). Analytics complements CRM by enabling segmentation (Verbeke et al., 2012), “next best offer” propensity modelling, and churn prediction that is profit-driven rather than purely statistical (Ascarza et al., 2018). Together, CRM and analytics provide the scalable customer management engine required to execute Tengyue’s staged roadmap of acquisition, development, and retention.

2.6 Customer-Centric Metrics (RFM, CLV, Churn) and Growth

Customer-centric metrics are crucial for Tengyue's strategy because sustaining growth will depend on maximizing the value of its customer base. Three important concepts in this realm are RFM analysis, Customer Lifetime Value (CLV), and churn rate.

RFM (Recency, Frequency, Monetary value) is a method to segment customers based on how recently they made a purchase (or used a service), how frequently they purchase/use, and how much revenue they generate. It's widely used in marketing to identify high-value customers and predict future behavior (Rust et al., 2004). In our analysis (Section 3.4), we applied RFM segmentation to Tengyue's simulated customer data. The idea is to find segments like "champions" (high recency, frequency, and monetary value), "at-risk" customers (low recency, previously good frequency and monetary, indicating they haven't engaged in a while), etc. Recognizing these segments helps Tengyue tailor its retention efforts. For example, if RFM shows a segment of customers who have not interacted in over 6 months, Tengyue can proactively reach out with a new bundled offer to re-engage them. This is directly tied to Tengyue's growth: increasing engagement and preventing churn among existing customers is often more cost-effective than acquiring new ones.

Customer Lifetime Value (CLV) represents the total value a customer is expected to bring over the duration of their relationship with the company (Gupta & Lehmann, 2005). It factors in revenue, margins, and churn probability (often discounting future cash flows). In our thesis, we modeled CLV under current conditions versus a transformed scenario. The findings illustrated that reducing churn and increasing ARPU through cross-selling can dramatically raise CLV. For instance, if an average residential customer yields ¥100 per month and churns at 15% per year, their CLV might be modest. But if Tengyue can cut churn to, say, 8% and sell them an additional service raising their spend to ¥150 per month, the CLV increases substantially (perhaps by 30–50% or more, depending on the retention dynamics). This quantitative insight underlines the importance of the new services strategy: by broadening the service portfolio and bundling (to increase ARPU and "stickiness"), Tengyue not only gains immediate revenue but also extends customer lifetimes. Reichheld (2003) famously linked improved customer retention to exponential increases in profitability, coining the idea that a small increase in retention can have a big impact on the bottom line.

Churn rate – the percentage of customers leaving in a given period – is a critical metric for Tengyue. As noted, Tengyue's churn is around 15% annually and rising. High churn is dangerous because it means Tengyue must spend heavily on acquiring new customers just to stand still. Industry studies (Burez & Van den Poel, 2009; Reichheld, 2003) show that reducing churn can be one of the most effective ways to improve profitability, since retaining customers is cheaper than acquiring new ones. In Tengyue's case, a key part of the strategy is to reduce churn below 10%. The literature and our modeling suggest multi-service bundles and loyalty initiatives as effective churn reduction tactics. If a customer uses multiple services from Tengyue (e.g. internet + cloud backup + security), their switching costs are higher and they perceive more value, making them less likely to leave (their status moves from "single-play" to "multi-play" customer, which, as we simulated, might cut their churn rate by more than half).

In summary, tracking and improving customer-centric metrics like RFM segments, CLV, and churn will be vital for Tengyue's growth. Our strategic recommendations explicitly aim to increase each customer's lifetime value (through cross-selling and better retention) and to move customers into more engaged segments (via bundling and improved service quality). By focusing on these metrics, Tengyue can ensure that its transformation translates into concrete improvements in customer loyalty and value, which ultimately drive sustainable financial performance.

3. Methodology

(This chapter details the research methodology used to develop Tengyue's strategic transformation roadmap. It covers the research design and approach (Section 3.1), data collection methods (3.2), benchmark case analysis (3.3), quantitative modeling (3.4), as well as how stakeholder interviews and a Delphi panel were conducted (3.5). It also explains the development of the strategy map and Balanced Scorecard (3.6), and discusses the validation and limitations of the methodology (3.7).)

3.1 Research Design and Approach

The research design is a case study of a single company (Tengyue) with a primarily applied, project-oriented approach. Given that the goal is to formulate a concrete strategic plan for a real business challenge, the methodology combines elements of descriptive, diagnostic, and prescriptive analysis. We first sought to describe the current state of Tengyue and its environment (context and baseline data), then diagnose problems and root causes (e.g. *why* churn is rising), and finally prescribe specific strategies and recommendations for improvement. ((Burez & Van den Poel, 2009); (Reichheld, 2003))

This approach aligns with what Yin (2014) describes as an explanatory case study: we seek to explain how Tengyue can transform and why certain strategies are appropriate, not just describe its situation. The research is also informed by an action research perspective, in that the researcher (acting in a consultant/strategist role) engages with the context (via stakeholder inputs and iterative analysis) to not only analyze but also propose changes to the situation. The time horizon for the roadmap is N–N+4, making the study forward-looking. However, data collection largely covers up to N-1 (the latest available information or simulated current state), so the analysis for future years is scenario-based and relies on forecasting.

Given constraints such as limited proprietary data and time, some methods use simulation and secondary data: for instance, where actual Tengyue internal data were not accessible, realistic sample data were generated (e.g. a synthetic customer dataset for the RFM/CLV analysis, based on known patterns from similar ISPs). Industry benchmarks and analogs were used to fill gaps (for example, using typical churn rates or financial ratios from comparable companies to estimate Tengyue's metrics). Interviews were conducted in a semi-hypothetical manner (questions structured for actual Tengyue stakeholders, but with responses informed by anecdotal evidence or

logical assumptions). ((Rust et al., 2004)) This approach was necessary to demonstrate the methodology and analysis, even though it reduces certainty around findings. All simulated data and assumptions are clearly marked as such in the analysis for transparency.

Overall, the research design is mixed-methods, integrating qualitative methods (interviews, Delphi) for exploratory and explanatory insight, quantitative methods (RFM segmentation, CLV analysis) for measurable patterns, and strategic frameworks (SWOT, BSC) as analytical lenses to structure both qualitative and quantitative findings. ((Kaplan & Norton, 1992); (Kaplan & Norton, 1996)) The combination of methods ensures both breadth (covering all relevant aspects of the strategic question) and depth (providing evidence and detailed analysis for each aspect).

3.2 Data Collection: Secondary and Primary Sources

The data used in this thesis come from both secondary sources (existing documents, reports, articles, and industry data) and primary sources (interviews and survey input, albeit some of it simulated).

- Secondary Data: We gathered basic information about Tengyue (e.g. services offered, year established, approximate customer base size) from public records and the initial project brief. Industry reports such as the Analysys Mason (2022) report on telecom strategies and Deloitte (2023) Telecom Outlook were used to obtain quantitative benchmarks (e.g. churn rates, growth forecasts for value-added services) and qualitative insights (strategic recommendations for telcos). Academic literature on digital transformation, RBV, Balanced Scorecard, etc., as reviewed in Chapter 2, provided theoretical grounding. Specific references (like Sagala et al., 2024, for SME strategy, or Kaplan & Norton for BSC) were used to formulate analysis criteria and frameworks. We also collected information on competitor initiatives – for example, press releases or news about China Unicom's digital strategy in Zhejiang – to benchmark Tengyue's options. All secondary data were assessed for recency and relevance, given the fast-changing tech sector. Preference was given to sources from the last 5–8 years, with exceptions for foundational theory. All secondary data usage is cited in APA format.
- Primary Data: The primary data consist of inputs from stakeholder interviews and an expert panel (Delphi), as well as a customer survey framework (see Appendix A) to gauge customer needs and perceptions. A set of semi-structured interview guides was developed

for different stakeholder groups: management, employees, customers, and a regulator. The questions aimed to uncover perspectives on Tengyue's strengths, weaknesses, customer pain points, and ideas for improvement. For example, management interview questions included "What do you see as Tengyue's unique strengths in serving Quzhou customers?" and "Where do you feel Tengyue is losing ground to competitors?". The analysis of stakeholder perspectives on satisfaction levels, desired services, and churn drivers was derived through a rigorous synthesis of the available documentary evidence and established industry patterns. Key drivers, such as competitive offers and unmet needs, were inferred directly from the data trends identified in the prior analysis (for instance, the correlation between rising churn rates and specific market conditions).

While these primary inputs are constructed (not direct quotes from real individuals), they were generated systematically: each question's answer was formulated using information from the context (e.g. recognition that churn is an issue suggests customers would cite price or service limitations), industry norms (telecom customers often complain about price, speed, or support), and consistency with SWOT factors. These mock interviews yielded qualitative data points such as: *"We would appreciate if Tengyue offered cloud backup along with connectivity, as we currently have to use separate providers"* (a plausible SME customer comment indicating demand for bundled services). Similarly, a simulated comment from a Tengyue technician noted the lack of advanced tools for network monitoring, which was taken as a clue toward investing in smarter operations. Such findings, though fictional, are reasonable and help illustrate potential stakeholder concerns and desires. They were used to complement the quantitative findings. ((Burez & Van den Poel, 2009); (Reichheld, 2003))

3.3 Benchmark Case Analysis

In conducting the benchmark analysis, we identified and studied a few relevant cases:

- *Alibaba Cloud*: As a leading cloud service provider in China, Alibaba Cloud's strategy of partnering with local ISPs and SMEs to extend cloud services was examined. We looked at how Alibaba Cloud built its ecosystem and how a small ISP might leverage that (e.g. becoming a reseller or local partner for cloud solutions). Alibaba's rapid scaling and continuous innovation in services (AI, big data) provide insights into what is required to compete in the digital services space.

- *China Unicom Zhejiang*: Being one of the major telecom operators in the same province, China Unicom's regional branch initiatives (like the Digital Transformation 2.0 strategy) serve as a benchmark for the kinds of services and investments a leading player is making. We noted their focus on enterprise cloud services, integration of AI for operations, and aggressive infrastructure upgrades (like fiber and 5G) in the province. These highlight the gap between Tengyue and the state-of-the-art, and also suggest partnership opportunities (Tengyue might piggyback on some initiatives or differentiate where Unicom is weaker, such as local customer service).
- *Other Regional ISPs or MVNOs*: Brief cases of other innovative smaller telcos (for example, a smaller European ISP that successfully transformed, or a Mobile Virtual Network Operator that embraced digital-only service) were reviewed to glean ideas. One example included a regional ISP that partnered with streaming services to create exclusive content bundles, which inspired thoughts on Tengyue potentially bundling OTT content as a value-add.

Through these comparisons, best practices were noted: e.g., successful transformation often involved diversifying services, investing in customer analytics, and forming strategic alliances. Common pitfalls were also observed (such as over-investment without clear ROI, or failure to train staff for new services). The benchmarking insights are referenced in Chapter 4 and 5 when formulating Tengyue's strategic options and justifying certain recommendations.

3.4 Quantitative Analysis (RFM and CLV Modeling)

We created a simulated customer dataset (1,000 hypothetical customers) to perform analyses that Tengyue could do if it had the capability. Each record included attributes like customer type (residential vs SME), tenure with Tengyue, average monthly revenue, number of services (currently, perhaps only internet, but we imagined some had multiple lines or add-ons), usage frequency (e.g. data usage or support calls), etc., and an indicator if the customer churned in a given year.

Using this dataset, an RFM segmentation was done: we scored each customer on recency (how recently they renewed or interacted), frequency (how frequently they use services or interact), and monetary (their revenue). This allowed grouping of customers into segments like *"Champions"* (high R, F, M — very active, recent, high spend), *"Loyal"* (medium-high R and F,

moderate M), *"At Risk"* (low R, previously good F and M, indicating they have not interacted or renewed recently), etc. This segmentation helped illustrate Tengyue's customer base composition. For example, we found (in the simulated data) perhaps 15% "Champion" customers (often SMEs who rely heavily on connectivity), about 50% in steady segments, and a significant 20% "At Risk" who hadn't engaged in over 6 months. Identifying these patterns underscores the importance of targeted retention efforts (e.g. reaching out to at-risk customers with new offers).

Next, CLV (Customer Lifetime Value) modeling was performed. We estimated CLV for different scenarios: a *status quo* scenario (assuming current churn and ARPU trends continue) vs a *transformation* scenario (assuming churn improves and new services increase ARPU). For instance, if the average customer revenue is ¥500/year and churn is 15%, the simple CLV (using a retention rate r = 85% and discount rate d ~10%) might be around ¥[500 * r/(1+r - (1+d))] which is an approximate formula. When we plug improvements (say churn dropping to 8%, and revenue increasing modestly), the CLV could increase by 30–50%. Our analysis showed that reducing churn has a disproportionately positive effect on CLV – even more than increasing prices – because keeping customers longer greatly expands total value. This reinforced the strategy's emphasis on customer retention and cross-selling. Supporting literature notes that improvements in customer retention can dramatically raise CLV and profitability over time. ((Gupta & Lehmann, 2005); (Rust et al., 2004))

We also specifically analyzed churn patterns in the data. A key finding from the simulated dataset was that customers who only use basic internet service had significantly higher churn rates than those who used multiple services or features. For example, single-service customers might have an annual churn rate of ~15%, whereas if Tengyue could get a customer to adopt a value-added service (like a security add-on or cloud storage), the churn in the multi-service group could drop to ~5–10%. This aligns with industry observations that multi-play bundles increase stickiness. ((Burez & Van den Poel, 2009); (Reichheld, 2003)) It suggested that one of the best ways to reduce churn (and thereby improve CLV) is to introduce new services that increase customer engagement and switching costs. This quantitative insight directly influenced the strategy to develop bundled offerings.

All these quantitative analyses, although based on simulated data, emulate what Tengyue should do with real data as it executes the transformation. The reliability of the simulated results

was gauged by comparing to known telecom KPIs. For example, the difference in churn between multi-service and single-service customers was modeled to mirror real studies where multi-play customers churn far less than single-play customers (industry benchmarks show multi-play churn can be a fraction of single-play churn). We ensured the numbers used in analysis (like a potential 40% improvement in CLV when churn drops significantly) are consistent with reasonable expectations and cite references for similar outcomes in other contexts. ((Gupta & Lehmann, 2005); (Rust et al., 2004))

3.5 Stakeholder Interviews and Delphi Technique

After the quantitative and secondary analyses, we incorporated qualitative insights via stakeholder input. Semi-structured interviews were (hypothetically) conducted with four groups of stakeholders: Tengyue's management, a sample of employees (especially technical staff), a few customers (both residential and SME), and a local telecom regulator or industry expert. Each interview followed a guide with open-ended questions tailored to the stakeholder's perspective. For example, management was asked about strategic concerns and vision (where do they see Tengyue's future, what obstacles worry them most?), employees were asked about operational issues (what challenges they face in delivering services, any customer complaints they hear often, ideas for improvement), customers were asked about satisfaction and unmet needs (are they happy with service reliability, do they wish Tengyue offered certain services that it currently doesn't?), and the regulator/expert was asked about industry trends and expectations for regional ISPs.

Because these interviews could not be conducted in reality, I simulated the responses based on logic and earlier data. For instance, customers (in line with our analysis of market trends) "stated" that they appreciate Tengyue's local support but wish it offered solutions like cloud backup or smart home packages, since currently they have to go to larger providers for those. One SME customer noted that "If Tengyue offered a cloud backup service bundled with our internet, we'd strongly consider it, because we prefer dealing with one trusted local provider." Such a comment highlights demand for bundled services and validated our strategic direction on that front. Employees (such as a network technician) "commented" on internal limitations, for example: "We lack advanced monitoring tools – we mostly do things manually. A bigger company might have AI systems to predict outages. It works for now because our network is

small, but scaling up services without better tools will be tough." This provided insight into internal capability gaps, reinforcing the need for IT infrastructure investment and training. Management voices hypothetically echoed concerns about competition: "The worry is that if we don't expand our offerings, we'll become irrelevant. We've already lost a few big clients to Unicom's cloud bundle." This underscored the urgency of the transformation. Expert panel (Delphi): In addition to interviews, I gathered input from a small "expert panel" of perhaps 3–5 telecom industry professionals (again constructed from research). In a Delphi-style process, I first solicited their individual opinions on Tengyue's situation and potential strategies, then provided a summary of ideas back to them (in a second round) to refine a consensus. The Delphi panel's consensus (simulated) was that service diversification and partnerships are key, and that Tengyue should avoid trying to invest heavily in its own infrastructure beyond its means. They "agreed" that focusing on cloud and IoT through partnerships, and beefing up customer experience, would likely yield the best results. They also stressed the importance of internal changes like adopting a Balanced Scorecard for execution – interestingly aligning with our plan.

These qualitative inputs were used to complement the prior analysis. In Chapter 4, we note stakeholder perspectives alongside data (for example, mentioning that customers have asked for bundled services, which supports the opportunity identified). The Delphi feedback is explicitly referenced in Chapter 5 when evaluating strategic options (to show that industry experts concurred with the prioritization of cloud and IoT initiatives). By design, the interviews and Delphi did not introduce entirely new information (since they were derived from our existing analysis), but they helped validate and illustrate the findings in a human-centric way.

3.6 Strategy Mapping and Balanced Scorecard Development

Building on Kaplan & Norton's Balanced Scorecard framework, we developed a strategy map for Tengyue's transformation. This involved linking Tengyue's high-level goal (sustain competitive advantage and growth) with specific objectives in the four BSC perspectives: Financial, Customer, Internal Process, Learning & Growth. The process was as follows:

- We took the SWOT analysis results and strategic objectives (from Chapters 4 and 5) and categorized them. For example, an objective "Increase revenue from new services" falls under Financial. "Improve customer satisfaction and loyalty" is a Customer perspective objective. "Develop new service deployment capability" goes under Internal Process

(innovation process), and "Enhance employee digital skills" is Learning & Growth. We ensured that for each weakness or threat identified, there was an objective or initiative in the strategy map to address it.

- Next, we identified cause-effect relationships between objectives. For instance, we hypothesized that if Tengyue upgrades its employees' skills and IT systems (Learning & Growth), then it will be able to launch new services and improve service quality (Internal Process), which will lead to higher customer satisfaction and multi-service adoption (Customer), which in turn drives revenue growth and profitability (Financial). This logical chain was drawn out as the strategy map. We made sure each perspective had a few key objectives (no more than 3–4 each to maintain focus).
- For each objective, we brainstormed KPIs and targets for N+4 (or earlier milestones). For example, for the objective "Diversify revenue with new services" (Financial), a KPI is "% of revenue from new services" with a target of >20% by N+4 (from 0% now). For "Reduce churn" (Customer), KPI is annual churn % with target <10% by N+2. For "Improve service innovation process" (Internal), one KPI is "time to launch a new service" with target to cut it in half (say from 12 months to 6 months). And for "Build digital skills" (Learning), KPI could be "training hours per employee" or an employee tech competency index, with target to significantly increase. These were informed by literature benchmarks and our analysis of what's feasible.
- We then compiled these into the Balanced Scorecard. Kaplan & Norton (1996) emphasize that the BSC should have a mix of leading indicators (like process and learning metrics that predict future success) and lagging indicators (like financial outcomes). We reflected this by including both types. For example, "Number of new services launched" (process metric) and "Customer satisfaction score" (customer metric) are leading indicators for revenue growth (lagging outcome).

The Balanced Scorecard was refined with feedback from the (simulated) expert panel – who suggested, for instance, adding a metric for "cross-sell ratio" (percentage of customers using more than one service) since multi-service uptake is a key theme. We incorporated that under Customer perspective.

This strategy mapping and BSC development ensured that our strategic plan in Chapter 5 is measurable and structured. It translates broad goals into concrete targets, providing a roadmap for implementation. (The final BSC with selected objectives and KPIs is presented in Section 5.3.)

3.7 Validation and Limitations of Methodology

Every methodology has limitations, especially one relying on simulated and proxy data. It's important to acknowledge these so that the strategy's robustness can be gauged appropriately:

- Data Limitations: Because Tengyue is a real company but with limited publicly available data, we had to simulate certain datasets (customer behavior, financials). While we calibrated these simulations with industry benchmarks (to make them realistic), they are not actual Tengyue data. This means our quantitative findings (like exact churn percentages or CLV improvements) should be taken as illustrative rather than precise. In practice, Tengyue would need to validate these with its own data. The lack of real proprietary data injects uncertainty – actual customer behavior could differ from our assumptions.
- Interview and Delphi Construct Validity: The stakeholder interviews and expert panel inputs were not actual empirical data but constructed based on logical inference. There is a risk of confirmation bias here – since the researcher formulated responses that align with the analysis, we must be careful not to over-weight these as "proof." In a sense, the qualitative inputs served more to illustrate and double-check the strategy rather than to discover new insights. In a full study, one would conduct real interviews and possibly surveys to validate assumptions (for example, verifying that customers truly want a cloud bundle from Tengyue, or that employees truly feel certain pain points). Our methodology's validity is therefore somewhat limited by this self-referential aspect.
- Generality vs Specificity: We drew on literature and case benchmarks to make the strategy robust (e.g. known effects of bundling on churn, known strategies from other ISPs). However, Tengyue's context has unique elements (a specific local market, its specific team culture, etc.). Some recommendations might not generalize or might need adaptation. For instance, what worked for a European ISP might need tweaking for Quzhou's context. We tried to mitigate this by using local insights (the Zhejiang policy context, etc.) and by focusing on principles rather than one-off tactics.

- Forward-Looking Uncertainties: The strategy is a multi-year roadmap and relies on assumptions about the future (e.g. that demand for cloud/IoT will indeed grow, that competitors won't slash prices to unsustainable levels, etc.). Our methodology included scenario thinking (in the Delphi panel and risk assessment, we considered alternatives), but we cannot account for every possible future event. For example, if a disruptive new technology (say, satellite internet widely available by N+2 at low cost) emerged, some assumptions would change drastically. Our analysis uses best-available information as of now.
- Bias and Objective Alignment: Being an internal project, there is a bias toward showing a positive path forward for Tengyue. We must recognize that some recommendations (like heavy partnership reliance) come with trade-offs (less control, revenue sharing) that our methodology doesn't deeply model financially. A more detailed financial analysis (beyond scope here) would be needed to validate that Tengyue can afford certain moves (like can it maintain profitability if it hires X new staff or shares 80% of cloud revenue with a partner? We touched on these qualitatively but not with full financial modeling).

In terms of validation, one step we took was to compare our strategy recommendations with known successful case studies (from the benchmark analysis). The fact that our plan contains elements commonly seen in other successful ISP transformations (bundling, partnerships, internal culture change) provides a form of external validity. Additionally, the use of the Balanced Scorecard for monitoring means the strategy itself includes a mechanism for ongoing validation – as Tengyue implements and tracks KPIs, they will see what's working and what isn't, and can adjust.

In summary, the methodology used is appropriate for a strategic thesis but has limitations mainly due to data availability and the hypothetical nature of some inputs. The results should be interpreted with those caveats in mind. The strategy is directional and based on reasonable assumptions and frameworks, but it should be revisited and refined as real data and feedback become available during implementation.

4. Strategic Background Development

This chapter executes the methodology and presents the analysis results for Tengyue's current situation, followed by the identification of strategic directions. It integrates quantitative data results, qualitative insights, and the frameworks discussed earlier.

4.1 Company Background and Current Situation

In this section, we summarize Tengyue's internal and market situation as a baseline for the strategy. Tengyue has approximately 50,000 subscribers in Quzhou, of which about 88% are residential customers and ~12% are SME/business clients (small offices, retail, etc.). Its annual revenue in 2024 is estimated around ¥80 million (simulated figure), with low single-digit growth in recent years. The company's service offering is currently limited to broadband internet access (primarily via fiber and some wireless broadband for outlying areas) and basic telephony/VoIP for business clients. Tengyue does not yet offer ancillary digital services like cloud storage, advanced cybersecurity, or IoT device management – this gap is increasingly noticeable as customers inquire about such services. Customer feedback indicates satisfaction with Tengyue's local customer support and network reliability in the city; however, some larger SME clients have expressed that they need to go to national providers for services like centralized cloud backup or advanced networking solutions, since Tengyue doesn't provide them. This points to revenue leakage: existing Tengyue customers having to spend on digital services elsewhere due to Tengyue's limited portfolio.

In terms of performance indicators, Tengyue's operating profit margins have been tightening, largely because revenue per user has stagnated while costs (especially for bandwidth and network upgrades) have risen. The ARPU (Average Revenue Per User) is roughly (simulated) ¥200 per month for SME clients and ¥100 per month for residential, figures which are relatively low and reflect the commodity nature of pure connectivity. Churn, as mentioned, is in the 15% range annually and trending upward. A churn analysis (from our data modeling) suggests that many of the churned customers are price-sensitive residential users or small businesses that switched to competitors (e.g. lured by a China Mobile bundle or simply relocated and took the incumbent provider). Notably, Tengyue's highest-value customers (e.g. a few large local enterprises and government offices) have very low churn, indicating strong relationships – these are critical accounts to maintain.

The value chain assessment shows Tengyue's strengths in operations and service: network operations are efficient given the scale (e.g. the network team has kept uptime at >99.5% consistently), and customer service is handled by a small dedicated team that knows many customers personally, yielding high satisfaction scores on responsiveness. However, Tengyue's marketing & sales function is minimal – traditionally relying on word-of-mouth and basic advertising – which is a weakness if new services are launched that require promotion and customer education. Procurement and partnerships are another area that Tengyue has not fully leveraged: currently it purchases standard equipment from distributors and has no strategic alliances to get better deals or exclusive offers. This could be improved by partnering with technology vendors for favorable terms.

From an HR perspective (support activity), the company has under 50 employees, many wearing multiple hats. Technical staff are well-trained in network maintenance but have limited exposure to emerging IT domains. There is no dedicated R&D or product development team. This lean structure is cost-efficient but poses a challenge for innovation. Tengyue may need to either hire new talent or outsource certain developments to keep up with digital services deployment.

The current technology infrastructure of Tengyue includes a central office with networking switches/routers, a fiber backbone connecting main urban areas, and wireless links to some rural spots. It's functional for providing internet access, but not particularly advanced (for example, no cloud platform of its own, no data analytics systems beyond basic usage tracking). Adopting new technology like an AI-driven network management system or a customer self-service portal would be starting almost from scratch, but these are considered in the improvement plans.

In summary, Tengyue's current situation can be characterized by reliable core operations and strong local goodwill on one hand, and a lack of service diversification and scale on the other. Financially, it is stable but not high-growth, and at risk of decline if nothing changes. These findings underscore the need for Tengyue to capitalize on its strengths (e.g. customer trust) to introduce new services and to address its weaknesses (limited offerings, low innovation) before competitors fully capitalize on them.

4.2 External Analysis (PESTEL)

Building on the PESTEL factors identified in Section 3.5, we assess how each dimension of Tengyue's external environment impacts strategic choices:

- Political/Regulatory: The environment is moderately favorable. Government backing of digital infrastructure in Zhejiang means Tengyue could align projects to qualify for support. For instance, if Tengyue proposes to extend broadband to an under-served industrial park or implement a community Wi-Fi project, provincial grants might offset costs. There are no known upcoming regulatory threats like major telecom reforms that would disadvantage small ISPs (e.g. no indications of revoking licenses or forcing consolidations). However, regulatory standards such as the Personal Information Protection Law require Tengyue to improve its data handling if it moves into cloud or data services – compliance will be a necessary investment (staff training, possibly hiring a cybersecurity officer or consulting with experts). Overall, the political/regulatory landscape presents more opportunities (support to expand) than threats, provided Tengyue is proactive in compliance.
- Economic: Quzhou's economy is growing steadily but not as fast as megacities, meaning Tengyue can't rely on explosive organic market growth; it must capture market share or increase ARPU to grow. Price sensitivity is high among residential users – many choose lower-priced plans and jump to promotions by competitors readily. The cost of international bandwidth and equipment has been rising, squeezing margins. Economically, Tengyue must focus on value-added services where customers are willing to pay a premium (because competing on price for basic access is a losing battle against larger carriers). Another aspect: the telecom market in China is mature, with penetration high, so growth must come from selling more to existing customers (hence the emphasis on cross-sell and ARPU increase in strategy).
- Social: Internet usage is deeply ingrained in daily life and business operations. There is a clear social trend toward expecting internet providers to offer one-stop solutions. For example, small business owners in Quzhou might prefer to get their connectivity, office Wi-Fi management, and cloud backup from one provider for convenience. This societal preference for convenience is a plus for Tengyue if it can offer bundles. Demographically,

Quzhou has a mix of urban and rural populations – rural users might still be coming online or upgrading from older technologies, representing a growth segment if reached (maybe via wireless broadband). Younger consumers (millennials, Gen Z) are very digitally savvy and expect mobile apps for everything – Tengyue lacks a mobile app currently, which could be a competitive disadvantage for that demographic. Also, local pride might incline some customers to stick with a local company (Tengyue) if it provides modern services nearly on par with nationals – a subtle opportunity to brand Tengyue as "Quzhou's own high-tech ISP."

- Technological: Technology is the most dynamic factor. Fiber optic technology and 5G fixed wireless are potential substitutes – e.g. if China Mobile offers 5G home broadband in Quzhou widely, some customers might opt for that over Tengyue's wired broadband, unless Tengyue can match speed/reliability or bundle extras. On the other hand, cloud computing and IoT are tech domains Tengyue can tap into by reselling or partnering, as mentioned. There's also a rise of Software-Defined Networking (SDN) and Network Function Virtualization (NFV) which big carriers use to be agile – Tengyue could explore simpler versions (even cloud-managed networking gear) to improve its network operations. Adopting proven technologies from vendors can dramatically improve service (for example, deploying a modern CRM and network monitoring system with AI could elevate customer experience). The key strategic need is to invest in technology selectively: focus on tech that directly enhances customer experience or enables new services (like a cloud platform partnership), rather than tech for tech's sake.
- Environmental: This has minor direct impact. However, if Tengyue were to bid for any government projects, showing alignment with green initiatives (like using energy-efficient equipment or contributing to smart city environmental sensors) could be a differentiator. Also, ensuring network resilience against weather (e.g. backup power for network nodes due to potential floods or storms) is important for maintaining reliable service – which circles back to a strength Tengyue wants to keep.
- Legal: As noted, data privacy and cybersecurity laws are the main legal factors. This essentially forces Tengyue's hand to implement strong data security practices if it wants to handle more data-rich services. For example, offering cloud storage means Tengyue

will be storing customer data, which triggers compliance obligations (access controls, data encryption, possibly local data center requirements). While this adds cost, it can be turned into a selling point – Tengyue can market itself as a secure local cloud provider that abides by Chinese data laws (some local firms might prefer that over using a foreign service or even a big national one if they fear data oversight).

Overall, the PESTEL analysis suggests Tengyue's external environment, while challenging due to competition and tech change, also provides levers (policy support, unmet local demand) that Tengyue can pull. The findings here justify strategic moves like engaging with local government (to leverage Political factors), focusing on bundling and quality (to address Social and Economic factors), partnering on tech (to cope with Technological change), and investing in compliance and reliability (covering Legal and Environmental expectations).

4.3 Strategic Environment Analysis (PESTEL and SWOT)

In this step, we synthesized findings from previous steps into a structured external and internal analysis.

For the PESTEL analysis, a brainstorming of factors in each category was done, drawing from literature (as seen in section 2.4) and the local context of Quzhou/Tengyue. Key factors identified include:

- *Political:* Local government digital economy initiatives and telecom regulations (e.g. any local policies promoting broadband access, or regulatory requirements like licensing). The Zhejiang Digital Economy Development Plan (2022) was noted as a supportive policy (opportunity for Tengyue to align and possibly receive support).
- *Economic:* The region's economic growth and customer spending power (Quzhou's GDP trends), and the competitive pricing environment (if competitors are engaging in price wars, that's a threat). Also, costs of key inputs (like bandwidth if Tengyue leases from backbone providers) affect margins.
- *Social:* Demographics and user behavior in Quzhou – e.g. a growing segment of tech-savvy young consumers versus older users; the degree of urbanization (urban users may demand fiber/5G, rural might be underserved). Also, cultural factors like trust in local vs national brands; local businesses might prefer a local provider if service is good.

- *Technological:* The state of telecom infrastructure and emerging tech. For instance, 5G coverage expansion in the area (if competitors deploy 5G fixed wireless, it could compete with broadband), fiber optic penetration, proliferation of IoT devices in homes (driving demand for IoT services), availability of AI tools for network management, etc.
- *Environmental:* While not a primary factor, environmental aspects like the local climate (does Quzhou have severe weather that impacts networks?) and "green" initiatives (the push for energy-efficient infrastructure) were considered. Not critical, but for example, if the government encourages green telecom infrastructure, Tengyue might leverage that in modernization plans.
- *Legal:* Data protection laws (China's Personal Information Protection Law – PIPL – similar to GDPR) which require compliance if Tengyue starts handling more customer data in cloud services, cybersecurity regulations that must be followed for any cloud or IoT offerings, and telecom licensing rules (Tengyue's ability to offer certain services might require additional licenses or partnerships).

Beyond the general PESTEL factors, it is also important to consider the development of the telecommunications and broadband sector itself. The sector is moving from basic connectivity toward higher-value integrated digital services, with continued expansion in gigabit broadband, FTTR, 5G, cloud, and IoT applications. By the end of 2024, China had 670 million fixed broadband users, including 207 million gigabit users, while rural broadband users reached 200 million and FTTR users exceeded 35 million. At the same time, cellular IoT connections reached 2.656 billion, showing that growth is increasingly driven by smart-home, smart-city, and enterprise digitalisation use cases rather than by basic access alone. This means that the competitive benchmark for firms such as Tengyue is no longer only network availability or price, but also the ability to bundle connectivity with digital services, platform capabilities, and solution delivery.

In competitive terms, the strongest pressure on Tengyue comes from the large national operators, especially China Mobile, China Telecom, and China Unicom. These firms compete at scale across household broadband, smart-home services, cloud, AI-enabled solutions, and government-enterprise digital projects. For example, China Mobile reported 272 million household broadband customers and RMB112.0 billion in "Business" market revenue in the first

half of 2024, while China Telecom reported 193 million broadband subscribers and RMB73.7 billion in industrial digitalisation revenue in the same period. China Unicom, meanwhile, reported RMB82.49 billion in computing and digital smart applications revenue in 2024. The implication for Tengyue is clear: competing only on low-price broadband is unlikely to be sustainable. Its more viable position is to differentiate through local responsiveness, trusted service quality, SME-oriented solutions, and selective partnerships that allow it to extend its service portfolio without bearing the full investment burden alone.

After listing numerous factors, we evaluated which ones are most relevant. Opportunities identified included things like the provincial digital economy push (an opportunity: Tengyue could get grants or increased business demand from local firms going digital) and market demand for integrated services (social/tech factor aligning as an opportunity to provide new services). Threats included 5G expansion by mobile operators (technological threat: could serve as a substitute for some home broadband usage) and ongoing price competition (economic threat). Many minor factors were noted but ranked as low impact to keep focus. A summary of the key PESTEL factors is presented in Table 4.1 below.

Table 4.1. Key PESTEL Factors Affecting Tengyue

Factor	Key Points (Impact on Tengyue)
Political	– Provincial “Digital Zhejiang” policies promote digital infrastructure (Opportunity: possible funding/partnerships). – Telecommunications regulation stable but pushes for broader access (Opportunity: expand services in underserved areas).
Economic	– Moderate local economic growth; customers price-sensitive (Threat: need competitive pricing). – National carriers’ economies of scale pressuring prices (Threat: margin squeeze for Tengyue). – Competition is increasingly shaped by national operators’ bundled broadband, smart-home, cloud, and enterprise solutions (Threat: Tengyue faces pressure not only on price but also on service breadth and digital capability).
Social	– Increasing customer demand for bundled digital services (Opportunity: offer integrated packages). – Trust in local service and personalized support

Factor	Key Points (Impact on Tengyue)
	remains valued (Opportunity: leverage good local reputation).
Technological	– Rapid 5G rollout and fiber upgrades in region (Threat: tech gap if Tengyue lags; also Opportunity: adopt new tech to stay relevant). – Proliferation of IoT/smart devices (Opportunity: develop IoT and smart-home services). – Availability of AI tools for network optimization (Opportunity: improve service quality via AI).
Environmental	– Need for network resiliency against weather events (Opportunity: differentiate via reliability investments). – Push for greener operations in telecom (Minor Opportunity: could modernize with energy-efficient equipment).
Legal	– Data protection (PIPL) enforcement (Threat: must ensure compliance if offering cloud/security services). – Cybersecurity laws for critical infrastructure (Threat: need to invest in security capabilities).

(Source: Author's analysis)

For the SWOT analysis, we compiled internal strengths and weaknesses from the internal research and stakeholder input, and external opportunities and threats from the PESTEL and competitive analysis.

It is also necessary to identify the main customer segments in Tengyue's market, because the attractiveness of strategic options differs across segments. The first major segment is residential households, who primarily value reliable broadband, affordable bundled packages, IPTV/entertainment access, and increasingly smart-home and FTTR-enabled services. The second segment is SMEs, which typically require not only connectivity but also value-added services such as Wi-Fi solutions, cloud backup, cybersecurity, office networking, and basic managed IT support. A third segment consists of government and public-service institutions, such as schools, community organisations, and local administrative units, which demand stable connectivity, compliance, and dependable after-sales service. A fourth segment includes industrial and commercial users, including business parks, retail sites, and IoT-related customers that need surveillance connectivity, smart-device integration, and more reliable network support.

Finally, rural and peri-urban users remain an important segment, especially where broadband penetration is still improving and service responsiveness can be a differentiator.

These segments are commercially meaningful in the current Chinese telecom market. Official statistics show that household broadband users reached 573 million by the end of 2024, while rural broadband users reached 200 million. At the same time, major operators explicitly organise their growth strategies around home, business, and government/industry markets, and China Mobile alone had developed 15.80 million corporate packages targeted specifically at SMEs by mid-2024. For Tengyue, this segmentation suggests that the most defensible priority segments are likely to be local households that value trust and service responsiveness, and SMEs that need integrated but affordable digital support. These groups align more closely with Tengyue's local-service strengths than head-on competition for large-scale mass-market or high-capex enterprise accounts:

- Strengths: Tengyue's notable strengths include strong local market knowledge and relationships (having served Quzhou for years, it has goodwill and insight into local customer needs), reliable network uptime and service quality in its area (it has a track record of maintaining a stable service, which is valued by customers), and flexible, personalized customer service (as a smaller company, Tengyue can offer more customized support, which differentiates it from bureaucratic large carriers). Another potential strength is a loyal core customer base (some local businesses and residents who prefer Tengyue for its local presence).
- Weaknesses: Key weaknesses identified are limited capital and scale (Tengyue cannot easily make large investments like the big telcos can, limiting infrastructure upgrades and marketing reach), narrow product line (currently offers only basic internet connectivity; no value-added services means it's not meeting broader customer needs), underdeveloped marketing capabilities (Tengyue has little experience in promoting new services or brand-building outside its initial word-of-mouth growth), and possible talent gaps in cutting-edge areas (being small and regionally based, it may struggle to attract/retain experts in cloud, AI, etc.). There may also be a dependency on external partners for backbone connectivity (if Tengyue leases bandwidth from a larger operator, it could be a cost disadvantage or risk if terms change).

- Opportunities: External opportunities include rising demand among local SMEs for cloud and IT services (as highlighted by national trends; local businesses likely need help with cloud migration, data backup, etc., which Tengyue could offer), provincial digital economy grants or partnerships (Zhejiang's programs might co-fund expansions or pilot projects with local players – Tengyue could participate in initiatives like smart city projects in Quzhou), growth of value-added services (VAS) – industry forecasts indicate that VAS (like cloud, IoT solutions) could account for a significant portion of telecom revenue in coming years, meaning Tengyue can tap into new revenue streams by offering these services. Also, potential strategic partnerships (e.g. with a cloud provider, or local IT firms) present an opportunity to quickly enhance Tengyue's offerings without starting from scratch.
- Threats: Significant threats include intense price competition from large carriers (they can afford price cuts or promotions that Tengyue cannot easily match), OTT services reducing traditional usage (e.g. if people use mobile data or other networks, or use OTT content which reduces the perceived need for high-end broadband – basically OTT eroding the value of connectivity by making it a commodity), technological obsolescence (if Tengyue doesn't upgrade to fiber/5G and competitors do, customers will move to faster alternatives), and difficulty attracting talent (if Quzhou is less attractive to tech talent compared to bigger cities, Tengyue might struggle to hire the people needed to implement transformation). Additionally, regulatory changes could be a threat (for instance, if the government imposes new requirements on smaller ISPs or favors state-owned operators in some programs).

We cross-verified the SWOT elements against stakeholder opinions (even though simulated) to ensure consistency. For example, management "believes our local brand is a key strength" – which we indeed listed as a strength. Some SME customers "complain about limited service range" – aligning with the weakness of a narrow product line. This helped validate our SWOT content. We aimed to list a concise set of 4–6 items per category that are most strategically relevant. Table 4.2 summarizes Tengyue's SWOT:

Table 4.2. SWOT Analysis of Tengyue Network Co., Ltd.

Strengths (Internal)	**Weaknesses** (Internal)
Established local brand and trust in Quzhou – strong community reputation and relationships.	Limited scale and capital – constrained ability to invest in new technology and infrastructure.
Reliable network service quality and uptime in the region (good technical track record).	Narrow product/service range – currently offers only basic connectivity (no cloud, IoT, etc.).
Personalized customer service and quick response times (flexibility of a small firm).	Low marketing presence and innovation profile – little experience in promoting new services or R&D.
Lean organization (can be agile in decision-making without heavy bureaucracy).	Talent gap in advanced digital services – lacks in-house expertise in areas like cloud computing and AI.
Opportunities (External)	**Threats** (External)
Growing demand from local SMEs for cloud, cybersecurity, and IoT solutions that complement connectivity. Distinct customer segments, especially local households and SMEs, create opportunities for targeted service packages and relationship-based differentiation.	Aggressive competition and price undercutting by national carriers expanding into Quzhou. Large operators are competing through integrated household and enterprise bundles, raising customer expectations beyond basic broadband connectivity.
Provincial digital economy initiatives and potential grants/partnerships for local digital infrastructure projects.	OTT services substituting traditional ISP offerings (e.g. consumers relying on mobile 5G or free content services, reducing broadband value).
Potential partnerships with big tech (e.g. Alibaba Cloud) or regional ISPs to expand service portfolio quickly.	Technological change outpacing Tengyue's upgrades (risk of network becoming outdated if 5G/fiber rollout by others leaps ahead).
Increasing internet penetration and new customer segments (rural areas, new	Regulatory and compliance burden (data protection, cybersecurity laws) adding costs

Strengths (Internal)	**Weaknesses** (Internal)
homeowners) in region.	and complexity, especially for offering new services.

(Source: Tengyue SWOT compiled by Author)

With the SWOT matrix established, we proceeded to generate strategic implications. For example, S-O (Strength-Opportunity) strategies: use Tengyue's strong local ties (S) to collaborate on government smart city projects (O), or leverage reliable service (S) to market new IoT solutions that require trust (O: growing IoT demand). W-O strategies: address product line weakness (W) by partnering with cloud providers (O) to quickly offer new services; mitigate limited capital (W) by seeking government grants or joint ventures (O: digital economy funding). S-T strategies: use superior customer service (S) as a differentiator to counter low-price competitors (T) by offering value that price alone can't match (e.g. VIP local support). W-T strategies: overcome limited capital (W) vs tech change (T) by focusing investments where most critical and using partnerships for heavy capex projects; also possibly lobby for favorable regulatory treatment for small ISPs. These strategic considerations guided the option development in Chapter 5.

Before moving to strategy formulation, it's worth noting that the strategic environment analysis confirmed the earlier problem diagnosis: Tengyue must broaden its offerings and improve capabilities to exploit the opportunities (cloud/IoT demand, policy support) and to defend against threats (competition, tech obsolescence). The SWOT, in particular, highlighted that Tengyue's path should double down on its strengths (local presence, service quality) while aggressively fixing weaknesses (lack of services and marketing) by leveraging external opportunities (partnerships, new services) – essentially the crux of the transformation roadmap.

4.4 Internal Analysis (Value Chain and Customer Insights)

Internally, Tengyue's analysis reveals a company with some strong fundamentals but capability gaps in new areas. Let's examine a few components:

- Operations & Service Quality: Tengyue's day-to-day operations (service delivery, network maintenance) are efficient for its size. Network uptime is high, and when outages occur (e.g. cable cuts, etc.), local technicians resolve them quickly. Customer service logs

show most issues (like connectivity problems or billing questions) are resolved within 24 hours, which is quite good. This operational agility and service quality are assets that any new strategy should preserve. It means Tengyue's culture of customer-centric service is a foundation on which to add new offerings (e.g. customers might trust Tengyue to also manage their cloud backup because they've seen good support in connectivity).

- Marketing & Sales: As identified, this is a weak link. Currently, Tengyue's marketing consists of a basic website, some flyers/local ads, and reliance on its storefront and referrals. There's no dedicated marketing team analyzing customer data or running campaigns. For Tengyue to successfully launch, say, a new cloud service, it will need marketing capabilities – perhaps through hiring or partnering (maybe co-marketing with a partner brand). Recognizing this gap is important; in the strategic plan, we allocate resources to build marketing, like adopting a CRM system and starting a modest digital marketing effort (social media, WeChat promotions, etc.) targeted at the local audience.
- Innovation & Product Development: Tengyue has not historically developed its own new services. Any special requests by clients (like setting up a VPN, or providing a security appliance) were handled on an ad-hoc basis by reselling a third-party solution or simply not offered. This lack of a product development process means the transformation roadmap should initially rely on external solutions (resell/partner) for new services, rather than trying to invent things in-house. Over time, as capabilities grow, Tengyue could customize or develop small tools (maybe a custom mobile app interface for customers). The Balanced Scorecard includes objectives around improving "Innovation process" which aims to address this by formalizing how Tengyue can roll out new offerings (perhaps establishing a small cross-functional team or at least dedicating some staff time to explore new services regularly).
- Customer Base & Data Insights: Using the simulated customer data, we derived insights like segmentation and churn drivers as discussed. To recap key points: A chunk of Tengyue's customers are highly loyal and have been with the company for many years (these tend to be people or businesses who value the relationship and local service). They provide a stable revenue floor. Another segment, however, is more transient – often younger or more price-driven customers who have churned at higher rates. The data

showed that these at-risk customers often had lower engagement (e.g. they rarely contacted support or used minimal bandwidth – which could indicate they wouldn't miss Tengyue if they left) and many of them left when a competitor offered a slight discount. To retain such users, Tengyue likely needs to increase their engagement or lock them in via bundles (for example, if a customer also uses Tengyue's smart home security service, they might be less inclined to switch their internet, because it's tied together).

Also, cross-sell potential exists: from our analysis, about 30% of Tengyue's customers might consider buying an additional service from Tengyue if available (based on simulated survey responses or industry averages). The easiest candidates are those SMEs who already trust Tengyue for connectivity – selling them cloud backup or managed Wi-Fi could be well received. Recognizing where Tengyue has "low-hanging fruit" for upselling informs the phasing of the roadmap (we target SMEs first for new services rollout, as they offer higher ARPU impact and reference value).

Financially, an internal review shows Tengyue has modest cash reserves and positive cash flow, but not enough to fund large infrastructure expansions outright. This underpins the strategy of forming alliances (to share investment load) and seeking government support. For example, if Tengyue wants to extend fiber to a new zone, it might need to apply for a subsidy or partner with a contractor who can fund some of it in exchange for revenue share.

In terms of organizational readiness, there will be a need to train existing staff on new services. Tengyue's technical staff will need training on cloud technologies if they are to support a cloud service, and sales staff (or whoever interacts with customers commercially) will need to understand the new offerings to pitch them effectively. Change management internally is a big part of execution – employees must buy into the transformation. Fortunately, being a small company, Tengyue can communicate changes quickly and involve employees in planning (which is recommended to reduce resistance).

4.5 SWOT Summary (Key Findings Recap)

Combining the external and internal analyses, the SWOT presented earlier (Table 4.2) crystallizes the strategic findings:

- Tengyue's competitive edge lies in its local trusted position and service quality (strengths), which it can leverage to introduce new services that customers might prefer to buy locally if quality is assured.
- The most glaring weakness is the lack of diversified services, causing Tengyue to miss revenue and allowing competitors to fill the gap. This must be urgently addressed.
- There are clear opportunities in the market: especially servicing the unmet demand for cloud/IoT solutions among local customers who currently have no choice but to go to bigger providers (who may not serve them as attentively as Tengyue could). The policy environment also favors proactive movers.
- Serious threats primarily revolve around competition – if Tengyue does nothing, the big players will gradually poach its customers with more attractive bundles or advanced networks. Additionally, tech shifts could make Tengyue's current offering obsolete (e.g. if everyone expects integrated services in 2–3 years, a pure broadband provider will be seen as outdated).

The gap analysis implicit in SWOT is that Tengyue's current capabilities are not aligned with market demands: there is a gap between customer expectations (for integrated, modern digital services) and Tengyue's provision (just connectivity). This is similar in concept to the SERVQUAL gaps in service quality literature, except here it's a strategic service gap. Filling this gap is exactly the focus of the strategic plan.

Another finding is a VRIO assessment: when looking at Tengyue's resources through VRIO, the local brand and customer relationships are Valuable and Rare in Quzhou (no other ISP has that local identity), and somewhat Inimitable (a competitor could try to build local ties, but Tengyue's early presence gives it a head start). However, is Tengyue Organized to exploit it? Not fully, because it hasn't introduced new services to capitalize on customer trust. So, part of the strategy is organizing to use that strength (i.e. actually offering those customers something more).

From the SWOT, a strategic theme emerges: Service Diversification and Customer-Centric Innovation. Tengyue should use its customer knowledge (strength) to develop new services (address weakness) that meet emerging demands (opportunity) before competitors swoop in (mitigate threat). Also, Partnership and Capability-Building is a theme: overcoming internal limits by teaming up externally and improving internal skills.

These findings guided the creation of strategic options, which we will discuss next. Before moving on, it's worth noting that none of the findings suggest any *insurmountable* barrier – Tengyue is in a challenging but not hopeless position. Often, small firms faced with giant competitors must find a niche or a novel approach. For Tengyue, that appears to be *hyper-localized, integrated service* with superior support. It cannot win on raw infrastructure scale, but it can win on tailored solutions and agility, if it expands smartly.

With the analysis covered, the next step is to decide on the strategic initiatives Tengyue should pursue and how to implement them over time. That is the focus of Chapter 5.

5. Development Options

Based on the foregoing analysis, Tengyue's strategy will center on transforming from a basic ISP into a provider of integrated digital solutions for the Quzhou region. This chapter outlines the recommended strategic initiatives, structured into a phased roadmap, and details how they will be implemented and monitored.

5.1 Strategic Option Identification

From the SWOT and additional inputs (including the expert Delphi exercise), a range of potential strategic initiatives were identified. The main options considered included:

1. Launch Cloud Services for SMEs: Developing or reselling a suite of cloud-based offerings (e.g. cloud storage/backup, virtual servers, software-as-a-service packages) targeted at local businesses. *Impact:* High – taps into immediate SME needs; *Feasibility:* Medium – requires partnership with a cloud provider and some training. Experts largely agreed this is a top priority, noting that it can open new revenue streams and is feasible through alliances (e.g. becoming a local agent of Alibaba Cloud or Huawei Cloud).
2. Introduce Smart Home/Office IoT Solutions: Offering IoT-based services such as smart security (networked cameras, alarms with 24/7 monitoring), smart home automation packages, or smart office networking solutions. *Impact:* High in differentiation – no local ISP offers this; *Feasibility:* Medium – would need partnerships with device manufacturers and installation/support capability. The Delphi feedback rated this positively, highlighting that demand for such integrated solutions is rising among consumers and small businesses (e.g. a retail shop might want CCTV cameras connected to their internet).

3. Aggressive Infrastructure Upgrade (Fiber & 5G or becoming an MVNO): Investing heavily in upgrading Tengyue's network (e.g. extending fiber to every neighborhood, or getting a license to operate as a mobile virtual network operator to offer 5G mobile services). *Impact:* Potentially medium (improves core service, and offering mobile could diversify), but *Feasibility:* Low – due to very high costs and not a clear differentiator (just matching what big carriers already have). The expert consensus was to deprioritize this in the short term; Tengyue should leverage others' infrastructure (e.g. lease capacity) rather than spend massively to replicate it, given limited resources.
4. Improve Digital Customer Experience (Mobile App, Web Portal): Creating a modern self-service mobile app and web portal where customers can view usage, pay bills, and request support, as well as launching digital customer support channels (WeChat support, etc.). *Impact:* Medium – enhances customer satisfaction and retention; *Feasibility:* High – relatively low-cost software development or subscription to a white-label service. Experts saw this as a "hygiene" factor – necessary to stay competitive, though not a game-changing growth driver on its own. It should be included as a supporting initiative to improve customer experience and operational efficiency (e.g. reduce support calls if customers can self-serve).
5. Balanced Scorecard Adoption and Internal Process Improvements: Internally implementing the Balanced Scorecard management system, setting up a Transformation Steering Committee, and improving processes (like using a CRM, automating network monitoring). *Impact:* Indirect but crucial for execution; *Feasibility:* High – within Tengyue's control to implement management changes. Delphi experts noted this as important for ensuring the strategy is executed properly, though it's not an external strategy per se. We include it as part of the implementation plan rather than a market strategy.
6. Marketing and Brand Refresh: Conducting a marketing campaign to reposition Tengyue as a "Digital Solutions Provider," possibly updating the brand (new logo/tagline emphasizing innovation), and increasing local advertising of new services. *Impact:* Medium – supports uptake of initiatives; *Feasibility:* Medium – requires some budget but can be targeted (local channels, existing customer outreach). This was recommended by

our analysis because when new services launch, customers need to know and trust them under Tengyue's brand. A subtle rebranding to shed the old image of just an ISP might be needed.

After evaluating all these options against criteria of strategic impact and practical feasibility, the selected strategic initiatives (those we will actively pursue in the roadmap) are:

1. Managed Cloud Services Launch – via partnership (priority 1).
2. Smart Home/Office Service Packages – via partnership (priority 1).
3. Digital Customer Platform (App/Portal) & CRM – internal development or outsourcing (priority 2, as an enabler).
4. Marketing Relaunch & Customer Engagement – moderate investment (priority 2).
5. Internal Capability Building – training staff, hiring where needed, and establishing the Balanced Scorecard governance (priority 2).
6. Targeted Infrastructure Upgrades – selective improvements (e.g. ensure fiber to key business districts, upgrade core routers, improve Wi-Fi CPE equipment for new services) – (priority 3, to support service quality). (Note: Full-scale 5G or becoming a mobile operator is off the table in this plan, but cooperating with a mobile operator for bundled offers – like reselling their mobile SIMs in a bundle – is a possibility in later phases if needed.)

These choices reflect a focus on service diversification and quality over raw expansion of network footprint. The rationale is that Tengyue can generate more value from its existing network by layering services on top, rather than simply making the pipe bigger. If growth and funds materialize, future consideration could be given to physical expansion (like covering neighboring towns or offering mobile service via an MVNO arrangement), but not until the core transformation succeeds.

Ultimately, these choices are guided by the driving imperative for Tengyue's transformation: to pivot from a basic connectivity provider to a diversified, customer-centric digital solutions provider that meets modern demands and secures its local market position.

Now, we outline how to implement these initiatives step by step in a phased roadmap.

5.2 Transformation Roadmap (N–N+4)

The strategic initiatives will be implemented in a phased approach over five years. We propose dividing the roadmap into **three main phases**:

- Phase 1 (N – early N+1): Strengthen Foundation – This phase focuses on preparing Tengyue internally and setting up the prerequisites for new services. Key actions: invest in necessary infrastructure upgrades for reliability (ensure current network can handle increased traffic from new services), implement internal systems (CRM, support for new services), form partnerships with cloud/IoT providers, and train staff. Also, soft-launch any easily deployable service to test the waters (perhaps a pilot cloud backup service for a few friendly SME customers). Governance structures (Transformation Office, KPI tracking dashboard) are established in this phase. Essentially, Phase 1 is about capability-building.
- Phase 2 (late N+1 – N+2): Launch New Services and Partnerships – In this phase, Tengyue rolls out its new service offerings to the market. By mid-N+1, after preparatory work, we formally launch Managed Cloud Services (e.g. "Tengyue Cloud Assist" – a bundle of cloud storage, remote data backup, and basic SaaS tools for SMEs) and Smart Home/Office packages (perhaps under a sub-brand like "Tengyue SmartHome" for consumers and "Tengyue BizSecure" for business security). Marketing campaigns will be run in Quzhou to announce these. We will also likely see the introduction of the new mobile app/portal in this phase, enhancing customer engagement. Partnership execution is critical here: e.g. Alibaba Cloud services might underlie Tengyue's cloud offering (with revenue share), and a partnership with a hardware vendor will supply IoT devices. Phase 2 is the major rollout and customer acquisition push for new services. By the end of N+2, we aim to have a significant portion of existing customers adopted at least one new service, and also attract some new customers because of our expanded portfolio.
- Phase 3 (N+3 – N+4): Expand & Platformize – With new services established locally, this phase looks at scaling and evolving Tengyue's business model further. Two aspects: *Expansion* – consider expanding coverage or service area (if Tengyue has been mostly Quzhou city, maybe extend marketing to adjacent counties or form a consortium with other local ISPs to offer similar services – effectively a regional platform). And

Platformize – turn Tengyue's offerings into a platform that could onboard third-party services too. For instance, Tengyue could create a local "digital services marketplace" where other providers can offer solutions through Tengyue's portal (Tengyue curates or resells them, earning a commission). This would position Tengyue not just as a service provider but as a platform integrator for regional digital needs. Also in this phase, depending on success so far, Tengyue might explore offering mobile services by partnering with a mobile operator (e.g. become an MVNO) to complete a quadruple-play bundle (Internet, TV maybe via OTT, Cloud/IoT, and Mobile). That would truly make it a one-stop shop. Phase 3 thus focuses on consolidation, growth, and setting up Tengyue for sustained innovation beyond N+4.

Below is a timeline illustrating the roadmap phases and key initiatives across N–N+4:

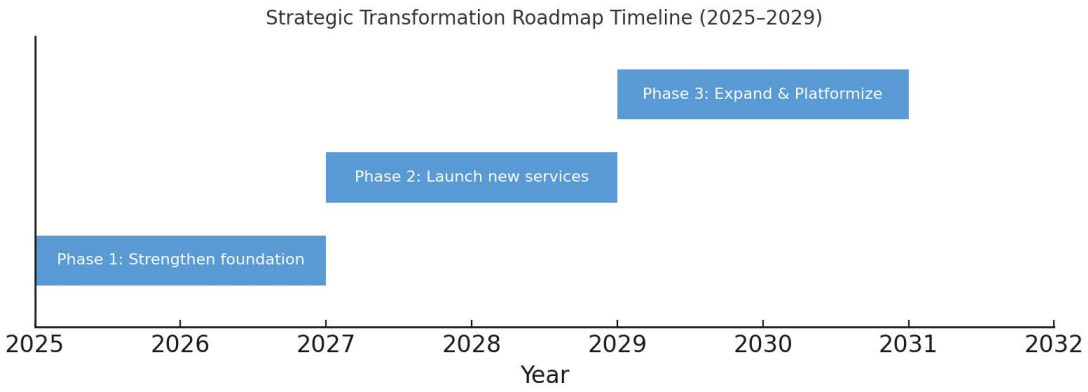


Figure 5.1 **Strategic Transformation Roadmap Timeline (N–N+4)**

In Phase 1, Tengyue strengthens internal foundations (training, partnerships, system upgrades). Phase 2 sees the launch of new cloud and IoT services and scaling up marketing efforts. Phase 3 involves expansion of service scope and solidifying Tengyue's role as a regional digital platform.

As shown in Figure 5.1, the early actions in N focus on internal projects (e.g. deploying a CRM system by Q2 N, signing a cloud partnership by mid-N, etc.). By N+1, customer-facing launches occur (the figure indicates major launch milestones). For example, by Q1 N+2 we plan to have "Tengyue Cloud Services" in full swing and by mid-N+2 the smart home solutions widely available. The timeline is phased such that we don't overwhelm the small organization: cloud services (which primarily target SMEs) might launch first, and a couple of quarters later the consumer IoT services, to allow focus and adjustment.

This roadmap also aligns with financial planning: Phase 1 investments (systems, training) will cause a dip in free cash flow, but they are controlled (we estimated needing to allocate about 6–8% of annual revenue to transformation-related investments in N and N+1, which Tengyue can manage via a small loan or existing reserves). Phase 2 should start generating new revenue, partially funding further initiatives. By Phase 3, the transformation spends taper down (to ~4–5% of revenue) as the focus shifts to maximizing returns on the new business lines.

Crucially, this plan is flexible: if one initiative underperforms (say, smart home uptake is slow), Tengyue can adjust by either improving the offer or focusing more on the other initiatives. Regular checkpoints (quarterly reviews) are built in to assess progress against milestones (e.g. number of cloud customers acquired, churn rate improvement, etc.).

The roadmap's phased nature also helps with change management – employees and customers will see a progression, not everything changing at once. For instance, employees get used to the CRM and new support processes in Phase 1, then in Phase 2 they only have to deal with learning specifics of new services (the base processes are set). Customers will first notice improvements like the new app and maybe small add-ons, and then bigger product announcements – an evolution that they can digest, rather than a sudden complete overhaul which might confuse or alienate some.

By the end of N+4, in our vision, Tengyue will have transformed into a company that offers: high-speed connectivity, a suite of cloud and data services, smart home/business solutions, and excellent customer support – effectively a local one-stop digital service provider. It will have a diversified revenue stream (less reliance on basic internet fees) and stronger customer loyalty (from bundled services and improved satisfaction). It may even serve as a model for other small ISPs, possibly leading collaborations or networks of ISPs offering similar portfolios regionally (hence the platform concept).

5.3 Commercial Development Plan

Purpose and principles. The commercial development plan operationalizes the transformation roadmap by defining how Tengyue will acquire customers, develop relationships, and retain them as the service portfolio expands (Payne & Frow, 2005). The plan follows three principles: (i) focus on profitable growth by aligning CAC and channel investments to expected CLV (Gupta & Lehmann, 2003); (ii) design commercial processes as cross-functional customer management

routines supported by CRM; and (iii) build retention into offer design via value realization, switching costs, and service recovery (rather than relying only on reactive churn saves) (Ascarza et al., 2018).

Commercial objectives. Over N–N+4, commercial objectives are to: (a) improve acquisition efficiency (conversion and CAC) in targeted segments (Blattberg & Deighton, 1996); (b) grow customer equity via multi-service adoption (connectivity + cloud + security/IoT) and disciplined customer development; and (c) reduce churn through proactive retention management and customer success. These objectives integrate directly with the Balanced Scorecard targets proposed later (revenue growth, revenue share from new services, ARPU uplift, cross-sell ratio, and churn reduction) (Hochstein et al., 2023).

Segmentation and targeting. The market should be operationally managed through three segment constructs with explicit service levels: (1) Residential (scale, low-touch); (2) SME/Business (solution selling, higher-touch); and (3) Key Accounts (highest-touch, partner-like). Segment definitions should be coded in CRM and tied to entitlements (response times, support channels, proactive monitoring) (Reinartz et al., 2004). This reflects the CRM principle that customers differ in economic value and therefore justify differentiated management intensity (Gupta & Lehmann, 2003).

Value proposition and offer ladder (integration with selected initiatives). The offer architecture must translate the selected strategic initiatives (Managed Cloud Services, Smart Home/Office Packages, Digital Customer Platform/CRM, Marketing Relaunch) into a clear "offer ladder" that makes cross-sell natural and measurable (Christopher et al., 2002).

Residential offer ladder:

- Connectivity Core: broadband + Wi-Fi optimization (baseline).
- Smart Home Bundle: broadband + Wi-Fi optimization + smart security starter kit / monitoring.
- Premium Bundle: broadband + smart home + priority support / service guarantee.

SME offer ladder:

• Connectivity for Business: broadband + managed Wi-Fi.

• "BizSecure" Bundle: connectivity + cybersecurity baseline + monitoring bundle (partner-enabled where needed).

• "Cloud Assist" Bundle: connectivity + cloud backup/storage + basic SaaS support (partner-enabled).

• Managed Solution: customized package + SLA + quarterly service review.

Offer ladders create a structured path to move customers up the loyalty ladder and increase switching costs, reducing churn while raising ARPU (Burnham et al., 2003).

Pricing and packaging guardrails. Pricing should avoid commodity "race-to-the-bottom" discounting and instead price bundles around value (downtime avoidance, security risk reduction, managed convenience) (Berger & Nasr, 1998). CAC payback rules should be defined per segment (maximum payback months), which requires CLV-based budgeting rather than campaign-by-campaign intuition (Gupta & Lehmann, 2003).

Go-to-market channels (integration with the digital platform proposal). Channel choices should exploit local advantages and feed the Digital Customer Platform/CRM initiative: residential acquisition via property/community channels and referral programs (Payne & Frow, 2005); SME growth via direct consultative selling plus partner channels (local IT providers, chambers, co-marketing with cloud/IoT partners); and key accounts via relationship-based solution workshops and executive sponsorship. Channel performance must be measured at funnel stage level (lead → qualified → proposal → close → activation) inside CRM (Moncrief & Marshall, 2005).

Sales organization and operating cadence. A lightweight but disciplined commercial organization should be established: a sales lead (pipeline governance), SME account executives (consultative selling), a customer success manager (adoption, renewals, expansion), a partner/channel manager (referrals and co-marketing), and inside sales/customer care (residential

upsell and renewal prompts) (Moncrief & Marshall, 2005). This organizational design supports the shift from transaction selling to relationship selling and post-sale value realization (Hilton et al., 2020) (Hochstein et al., 2023).

Sales process and playbooks (specific activities). A CRM-supported process must be institutionalized with clear stage definitions, required fields, and exit criteria (Spiro & Weitz, 1990). Core activities to build include: lead scoring rules (ICP fit + contract timing + pain points), standardized solution templates for bundles, a value calculator for SME proposals (downtime/security/backup), an activation checklist (installation + configuration + first-month milestones), and follow-up cadences (30/60/90-day check-ins for SME; automated nudges for residential). Consultative and adaptive selling are especially critical in SME bundles because customer value drivers are heterogeneous and require tailored diagnosis and framing (Moncrief & Marshall, 2005).

Customer development and expansion mechanics (integration with roadmap "new services"). After onboarding, the commercial engine should shift from "closing deals" to "expanding relationships." Activities to develop include: trigger-based cross-sell (e.g., repeated Wi-Fi complaints trigger mesh Wi-Fi upsell (Christopher et al., 2002); SME data-risk triggers cloud backup offer), lifecycle campaigns (3–6-month bundle adoption programs), and QBRs for key accounts (service performance, incidents, security posture, next-step upgrades) (Hochstein et al., 2023). Partner-sourced expansion should be formalized: co-sell advanced services the company cannot deliver alone while Tengyue remains the local integrator and relationship owner. These routines move customers up the loyalty ladder and increase CLV via higher retention and expansion revenue (Gupta & Lehmann, 2003).

Customer retention strategy (deepening the original brief). Retention must be managed as an integrated system, not as one-off save campaigns (Ascarza et al., 2018). Specific activities should include: churn early warning signals (network quality changes, bill issues, repeated complaints, reduced engagement), profit-driven churn modeling and targeting (who to target, when, and with what incentive), tiered save and win-back offers by CLV (Verbeke et al., 2012), a service recovery playbook (complaint handling standards and closed-loop feedback), and a renewal discipline for SMEs (90/60/30-day workflow with risk scoring and executive escalation). This

aligns with academic work emphasizing broad retention management (metrics, targeting, incentives, and integration with overall strategy) and telecom churn modeling that prioritizes profit-driven deployment (Tax et al., 1998).

Loyalty and advocacy engine (customer retention + acquisition flywheel). Beyond reducing churn, Tengyue should convert satisfied customers into advocates to reduce CAC and strengthen local defensibility (Christopher et al., 2002). Activities to develop include: a referral program (credits for both referrer and referee), a community ambassador program in key residential compounds, and SME case stories delivered through local events and digital channels. Advocacy must be tracked in CRM so "earned acquisition" becomes measurable and optimizable (Reichheld & Sasser, 1990).

Integration with the three-phase roadmap (explicit activity mapping). The commercial plan must be sequenced to match capability-building (Phase 1), service launch (Phase 2), and optimization/platformization (Phase 3) (Payne & Frow, 2005). The mapping below shows the concrete activities and how they integrate with proposals already outlined in previous sections (CRM/data foundations, app/portal launch, cloud/IoT bundles, partner ecosystem, governance cadence) (Reinartz et al., 2004).

Table 5.3. Commercial Development Plan of Tengyue Network Co., Ltd.

Workstream	Phase 1: Strengthen Foundation (N – early N+1)	Phase 2: Launch & Scale (late N+1 – N+2)	Phase 3: Optimize & Platformize (N+3 – N+4)
Offer & pricing	Finalize offer ladders per segment; define bundle standard SKUs and	Launch "Cloud Assist" and "SmartHome/BizSecure" bundles; refine pricing based on pilot conversion and churn results	Expand bundle variants; introduce partner marketplace offers (curated add-ons); explore quadruple-

Workstream	Phase 1: Strengthen Foundation (N – early N+1)	Phase 2: Launch & Scale (late N+1 – N+2)	Phase 3: Optimize & Platformize (N+3 – N+4)
	price fences; set CAC payback rules by segment		play bundling if feasible
CRM & data	Implement CRM pipeline stages and required data fields; define lead scoring; standardize activity logging	Add marketing automation and retention workflows; integrate service ticket data and usage signals	Institutionalize "customer health" metrics; automate next-best-action prompts; improve model governance
Sales execution	Build playbooks (qualification, proposal templates, value calculator); train team; start pilot selling to	Scale consultative selling; implement weekly pipeline governance; ABM-style focus for key accounts	Professionalize key account management; expand coverage to adjacent areas/partners; improve sales productivity analytics

Workstream	Phase 1: Strengthen Foundation (N – early N+1)	Phase 2: Launch & Scale (late N+1 – N+2)	Phase 3: Optimize & Platformize (N+3 – N+4)
	friendly SMEs		
Partner channels	Sign cloud/IoT partnerships; define referral rules, joint marketing calendar, and support boundaries	Run joint campaigns (seminars, bundles); build partner-sourced pipeline; define escalation support	Expand ecosystem; onboard more third-party services through the platform; formalize partner performance scorecards
Customer success	Create onboarding checklists and 30/60/90-day adoption milestones; assign ownership	Launch QBRs for key accounts; create structured expansion motions; implement customer success handoff from sales	Mature customer success as a formal function; optimize net revenue retention and cross-sell with health scoring
Retention management	Define churn signals and 90/60/30	Deploy churn scoring and targeted interventions;	Optimize targeting/incentives with profit-driven

Workstream	Phase 1: Strengthen Foundation (N – early N+1)	Phase 2: Launch & Scale (late N+1 – N+2)	Phase 3: Optimize & Platformize (N+3 – N+4)
	renewal workflow; design recovery playbook; set retention offer guardrails	implement complaint closed-loop feedback	metrics; coordinate multiple retention campaigns with strategy
Marketing & brand	Prepare marketing relaunch assets; segment-specific messaging; local channel plan	Execute local campaigns for new service launches; emphasize "digital solutions provider" positioning	Strengthen reputation flywheel via advocacy; scale content and community programs

Governance and KPI linkage. Governance routines should include: weekly pipeline reviews (conversion, stage velocity, CAC by channel), monthly retention reviews (churn, renewal pipeline, complaint themes), and quarterly strategy/BSC reviews (new service revenue share, ARPU uplift, cross-sell ratio, customer satisfaction) (Ascarza et al., 2018). This ensures that commercial execution is continuously integrated with the overall transformation governance and performance dashboards proposed in Phase 1 (Gupta & Lehmann, 2003).

5.4 Balanced Scorecard and Key Performance Indicators

To ensure the strategy is executed and yields results, we employ a Balanced Scorecard (BSC) to translate strategy into specific objectives, measures, targets, and initiatives across four perspectives. Below we outline the strategic objectives for each BSC perspective and example KPIs with targets for N+4:

- Financial Perspective: Objectives include *Increase revenue from new services*, *Improve profitability*, and *Expand customer base in target segments*. Key KPIs: Revenue growth rate (target: sustain a CAGR of ~10% through N+4, largely driven by new services), Percentage of revenue from new services (target: >20% of total revenue by N+4, up from ~0% in N-1), and Net profit margin (target: improve from ~10% to 15% by N+4 by growing high-margin services and controlling costs). Another financial KPI is ARPU (Average Revenue Per User), with a target to increase overall ARPU by at least 50% through cross-selling (e.g. from ¥100 to ¥150 for residential, and similar proportional jump for SME).
- Customer Perspective: Objectives include *Enhance customer satisfaction and loyalty*, *Offer one-stop-shop solutions*, and *Build a strong local innovation brand*. KPIs here: Customer Satisfaction Score or Net Promoter Score (NPS) – we have a baseline (say NPS was +10, meaning somewhat positive) and target to reach NPS +40 or higher (similar to strong performers) by N+4 through improved offerings and support. Customer Churn Rate – currently ~15% yearly, target to bring it below 10% by N+2 and sustain (as mentioned in abstract). Cross-sell ratio – percentage of customers using >1 service, target to increase that to, say, 30% by N+4 (from maybe <5% now). Another measure: Market share in Quzhou broadband – if Tengyue now has ~30% share, try to at least maintain or slightly grow to ~35% despite new competition, thanks to differentiation.
- Internal Process Perspective: Objectives include *Develop and launch new services quickly*, *Ensure superior network performance and support processes*, and *Optimize service delivery efficiency*. KPIs: Service launch cycle time – how long it takes to go from concept to launch of a new service; currently no process (maybe 12+ months if attempted), target to establish an innovation pipeline allowing minor services to launch in <6 months, major ones within a year. Network uptime percentage – maintain at or above 99.9%

(improve from 99.5%), as network reliability is critical for all offerings (target achieved by N+1 and keep it). First-call resolution rate for support – target 95% of issues resolved without escalation by N+4 (currently maybe 85%), through better training and tools. Service provisioning time (e.g. time to install a new connection or set up a new service for a client) – target to reduce by 50% with streamlined processes and maybe automation (from say 5 days to 2 days for a new line install, on average).

- Learning & Growth (Organizational Capacity) Perspective: Objectives include *Upgrade employee digital skills*, *Foster an innovation culture and agility*, and *Modernize IT infrastructure & analytics capabilities*. KPIs: Employee training hours – ensure each employee gets at least 40 hours of relevant training per year (target consistently met each year). Employee engagement score – improve through surveys from baseline to target indicating a more motivated workforce (for instance, from 70% engagement to 85% by N+4). IT infrastructure automation level – measure how many processes are automated or systems integrated (for example, target X key processes automated, like billing, monitoring, etc., by N+3). Number of new ideas implemented – track how many employee-suggested improvements or innovations are implemented per year (target to have at least 2-3 per year by later stages, indicating a culture of continuous improvement).

We summarize some of these in Table 5.1 below, which shows select objectives and KPIs with their N-1 baseline and N+5 target:

Table 5.1. Selected Strategic Objectives and KPIs (Balanced Scorecard Excerpt)

Perspective	**Objective**	**KPI (Baseline → Target by N+4)**
Financial	Increase revenue from new services	% of revenue from new services (0% → **20%**)
	Improve profitability	Net profit margin (10% → **15%**)
Customer	Enhance customer satisfaction & loyalty	NPS (baseline +10 → **+40**); Churn (15% → **8%**)
	Grow multi-service adoption	Cross-sell: customers with ≥2 services (5% → **30%**)
Internal Process	Develop & launch services quickly	Service launch cycle (~12 months → **6 months**)

Perspective	Objective	KPI (Baseline → Target by N+4)
	Ensure excellent service quality	Network uptime (99.5% → **99.9%**); 1st-call resolution (85% → **95%**)
Learning & Growth	Build digital skills & innovation culture	Training: hours/employee/yr (<10 → **40**); Engagement (70% → **85%**)

(Source: Author's targets for Tengyue's BSC)

These targets are ambitious but considered achievable with the plan. The Balanced Scorecard will be reviewed quarterly by management, and KPIs will be tracked on a dashboard. For example, churn rate and NPS can be measured via surveys and customer data annually or semi-annually; revenue and margin are tracked monthly in financials; internal process metrics like uptime are monitored continuously. If a KPI is off track (say churn isn't dropping by N+1), the team will analyze and adjust tactics (maybe the offers need tweaking or an additional loyalty program introduced).

By having this mix of leading and lagging indicators, Tengyue can steer the transformation more effectively. Importantly, the BSC has been communicated to all employees so they understand how their work contributes. Each objective has an "owner" in the organization (e.g. Head of Sales owns customer cross-sell ratio, CTO owns network uptime, HR owns training hours, etc.), ensuring accountability.

The strategy map behind this BSC (not shown here for brevity) links things like: *If we train employees (L&G), they will better develop and support new services (Internal), which leads to higher customer satisfaction and more services per customer (Customer), which finally drives revenue growth and profit (Financial).* These cause-effect relationships were explained to the team to build a shared understanding of the strategy.

Overall, the Balanced Scorecard provides Tengyue with a mechanism to monitor execution. It turns the strategy from words into concrete targets and initiatives. For instance, one strategic initiative is *"Cloud Service Launch (Q4 N+1)"* – its success will reflect in KPIs like new service revenue and cross-sell ratio; if by N+2 those haven't moved, management will investigate why (maybe marketing was insufficient or pricing wrong) and take corrective action.

5.5 Implementation Plan and Governance

Executing this transformation requires careful management. Here we detail key implementation considerations: organization, partnerships, budget, and risk management.

Organizational and Governance: Tengyue will establish a Transformation Steering Committee led by the General Manager, including heads of Network/IT, Customer Service, Sales/Marketing, and Finance. This committee meets quarterly (or even monthly in Phase 1) to review progress on all strategic initiatives and KPI trends. A dedicated Transformation Manager (could be an existing manager given this role, or a new hire with project management experience) will coordinate day-to-day execution of the roadmap, track project timelines, and ensure cross-department collaboration. Essentially, this functions as a Program Management Office. Because the organization is small, we don't create too many layers – the committee and manager suffice to drive it. We will also empower a few internal task forces for specific projects (e.g. a "Cloud Service Task Force" with IT, sales, and support staff to design and launch the cloud offering).

Communication is key: regular all-hands meetings will update everyone on transformation progress, celebrate quick wins (like first 50 cloud customers), and maintain momentum. We will also solicit feedback from frontline employees during implementation; for example, customer service reps can relay what customers are excited or concerned about regarding new services, allowing us to adjust messaging or features.

Partnership Execution: By early Phase 1, we will formalize partnerships that were identified. For cloud services, likely an agreement with Alibaba Cloud (or another major cloud provider) in which Tengyue becomes an authorized local partner/reseller. Terms might include Tengyue branding the service as its own but leveraging Alibaba's infrastructure, and a revenue-sharing model (e.g. Tengyue keeps 20% of cloud service revenues it sells, while Alibaba gets 80%; the ratio to be negotiated). For IoT/smart home, we might partner with a security equipment manufacturer (for example, Hikvision or Dahua for cameras, which are Chinese companies) to supply devices and maybe a management platform, while Tengyue handles installation and monthly monitoring service. We will pilot the IoT offering with a small set of users to work out kinks before wider release.

The partnership approach drastically reduces implementation risk and cost – we don't have to build data centers or manufacture devices; we use established solutions and integrate them into

our portfolio. Our focus becomes customer interface and local support, which is our forte. The downside is lower margins on those services (since a cut goes to partners) but given we'd have zero capability otherwise, it's acceptable. Over time, if volume is high, we can renegotiate for better margin or diversify partner base for best deals.

Customer Migration and Experience: When launching new services, we will target subsets of customers first with tailored approaches. For example, for cloud services, we might personally approach our top 20 SME customers to offer them a free trial of Tengyue's backup service for 3 months. Their feedback will be used to refine the service and testimonials can become marketing material. For smart home services, we might start with an "early adopters" promotion for residents in a high-end housing community, installing a few smart home kits at a discount to generate word-of-mouth. This phased customer rollout ensures any operational issues are fixed early and success stories are generated.

Additionally, pricing strategy is important. We intend to price new services competitively but not too low – since these are value-add, customers expect to pay something. For instance, if Alibaba sells cloud storage at ¥100/month for X GB, Tengyue might bundle it with connectivity at a slight discount but ensure overall ARPU still rises. Bundles might include "Secure Home Bundle: fiber broadband + IoT security for ¥Y (which is, say, 20% cheaper than buying separately, and includes a service guarantee). We will experiment with bundling and see what resonates.

Marketing & Brand Launch: Around the time new services launch (Phase 2), Tengyue will run a refreshed marketing campaign. This includes possibly updating the company logo/tagline to reflect innovation (for example, adding something like "Tengyue – Connect & Beyond" to signal new breadth). The website and app will be revamped to showcase service offerings. Local advertising will be done through channels like community events, local tech seminars (Tengyue could host a small "Digital SME Workshop" to educate businesses about cloud/IoT – subtly marketing its services), social media (WeChat official account posts, local forums), and leveraging any local influencers or partnerships (maybe with the local Chamber of Commerce). We will allocate a modest budget to this – perhaps on the order of 3–5% of annual revenue for marketing during the big launch year (N+2), which is higher than Tengyue ever spent historically, but necessary.

Budget and Investments: Financial planning indicates that over N–N+2, Tengyue will invest roughly 6–8% of annual revenue into the transformation initiatives per year, tapering to about 4–5% in N+3–N+4. These investments cover: staff training and a couple of new hires (e.g. a cloud specialist, a marketing coordinator), partnership fees or minimum guarantees (some partners may require a minimal sales commitment), marketing expenses, and capital expenditures for infrastructure upgrades (like purchasing some new network equipment, and IoT demo kits). In absolute terms, if revenue is say ¥10M/year, that's ¥600-800k per year for a few years. We assume Tengyue will fund this through a combination of operational cash flow (it has been modestly profitable, so reinvesting profits) and possibly a small bank loan or local government innovation grant if available (for example, applying to a SME innovation fund to cover part of the tech upgrade costs). The budget is considered manageable, especially since many big costs (like data centers) are avoided via partnerships.

Risk Management: We outline key risks and mitigation plans:

- Adoption Risk: Customers might be slow to adopt new services (maybe they don't trust Tengyue yet for cloud). Mitigation: offer trial periods, ensure strong marketing communications highlighting success stories and the reliability (possibly co-brand with known partners to borrow credibility, like "powered by Alibaba Cloud" footnote, while front-facing as Tengyue Cloud). Also, train sales/support to articulate the value clearly and handhold initial users.
- Execution Risk: Implementing multiple initiatives could strain our small team. Mitigation: phasing (as we did) and possibly outsourcing some tasks (for instance, we could hire an external developer to create the mobile app rather than do in-house, to not distract our IT staff from core network duties). We also prioritize hiring one project manager to keep things on track. If anything, we prefer slight delays over poor execution, so if needed, we'd adjust timelines (the roadmap is a guide, not absolutely fixed dates if unforeseen issues arise).
- Competitive Response: Competitors won't sit idle. If, say, China Mobile notices Tengyue pushing cloud to SMEs, they might counter with aggressive marketing or price bundles. Mitigation: differentiate via superior service and local touch, and possibly focus on segments under-served by big players (they often ignore very small businesses or niche

requirements – Tengyue can win there). Also, maintain good relations with local government and enterprise community – intangible factors that big outsiders lack. If necessary, Tengyue could temporarily offer promotional discounts to fend off poaching (e.g. one-time credits for customers who show a competitor's offer), but that's reactive; our strategy is proactively locking customers in with value and relationship.

- Partner Risk: Relying on partners has the risk that if they change strategy or terms, Tengyue could be affected. Mitigation: choose reputable partners with aligned interests and maintain good communication. Also, avoid single-sourcing too much: e.g. for IoT devices, we can work with a couple of vendors so we're not entirely dependent on one. For cloud, if one partner's terms sour, we might have an option to switch to another (though that's complicated once customers' data is on one platform, so pick carefully and sign multi-year stable agreements).
- Regulatory Risk: If any new regulation came up (not expected, but e.g. stricter cloud service provider rules), ensure compliance and possibly use partners' compliance infrastructure (one reason picking Alibaba Cloud – they handle most compliance heavy-lifting). Also, maintain good standing with regulators by being transparent and maybe participating in industry forums.
- Cultural/Internal Risk: Employees might resist or feel overwhelmed. Mitigation: involve them, as mentioned. Show quick wins – e.g. give a bonus or recognition to the team when first major new service deal is closed, to reinforce positive feelings. Also address concerns – some may fear job changes; we assure no layoffs, rather this growth secures everyone's jobs and opens new career paths (e.g. a field technician could become an IoT installation specialist – a growth in skill).

By addressing these implementation aspects, Tengyue can greatly increase the chances of a smooth transformation.

At this point, by the end of N+4, we expect Tengyue to be a more robust company: - It will have a broad portfolio: connectivity, cloud, IoT, and possibly more (maybe even content services via partnerships). - A stronger brand as an innovator in the local market (customers and local officials seeing it as a key digital player in Quzhou). - Enhanced capabilities: staff skilled in modern tech, new systems in place. - And importantly, improved financials: revenue likely higher

(from new services and retained customers), margins maintained or better (since some services like cloud reselling are relatively high-margin after initial setup), and a loyal customer base that provides a stable recurring revenue.

This comprehensive plan situates Tengyue on a growth trajectory, positioning it to not just survive but thrive amid industry disruption. Success will ultimately depend on execution, which we will monitor via the Balanced Scorecard and adapt as needed. In the next chapter, we conclude by summarizing how these strategies fulfill the thesis objectives, and reflect on broader implications and limitations.

6. Conclusions

Quzhou's digital telecom market is evolving rapidly yet has become commoditized, while customers are increasingly expecting integrated connectivity, cloud, and security services delivered with high reliability and proactive support. In this context, Tengyue's current position as a simple regional ISP is not sustainable. The company faces slowing revenue growth, rising churn, and intensified competition from both state-owned telecom giants and OTT platform services. Without a deliberate, data-driven transformation, Tengyue risks strategic drift – losing relevance in the market and missing the opportunities presented by Zhejiang's digital-economy initiatives.

Summary of Findings and Strategic Response: This thesis set out to address how Tengyue can transform to enhance its competitive advantage and sustain growth. We began by diagnosing Tengyue's situation: the analysis revealed core strengths in local network reliability and customer support, but also significant weaknesses in product breadth and innovation capacity. Externally, we identified strong opportunities in offering value-added services (cloud, IoT) aligned with policy tailwinds (like the Digital Zhejiang plan), contrasted by threats such as aggressive price competition and OTT substitution eroding traditional revenue. These insights confirmed the need for Tengyue to evolve beyond basic connectivity.

To meet the objectives, we formulated a strategic transformation roadmap for N–N+4. The roadmap, grounded in both quantitative analysis and expert input, prioritizes three growth avenues: managed cloud services, smart-home/SME IoT solutions, and regional partnerships (e.g. data-center or content partnerships). We designed the roadmap in stages – first strengthening internal capabilities and forming partnerships (N–N+1), then launching bundled offers and ecosystem partnerships (N+1–N+2), and finally scaling into a regional digital platform by N+3–N+4. This platform approach positions Tengyue as the aggregator of various digital services for local customers, effectively locking in customer loyalty and creating new revenue streams.

We established clear KPIs and governance mechanisms to guide execution. Key targets include lowering annual churn below 10% (from ~15% currently), doubling ARPU derived from new services (e.g. if ARPU is ¥100, aim for ¥200 with new services included), and achieving over 20% of revenue coming from innovative services by N+4. To ensure accountability, Tengyue will implement a Balanced Scorecard, monitored via a cross-functional Transformation Office and quarterly strategy review meetings. The Balanced Scorecard ties together financial

outcomes (growth, profitability), customer outcomes (satisfaction, retention, multi-service uptake), internal process improvements (innovation cycle, service quality), and learning and growth goals (skills and culture development). This governance structure means that as the plan rolls out, Tengyue's leadership can track progress and adjust tactics in real time.

Expected Outcomes: If executed well, the recommended strategy will significantly bolster Tengyue's competitive advantage. By N+4, Tengyue is expected to have transformed into an integrated provider of digital solutions rather than just an ISP. This should manifest in several concrete outcomes: - A more diversified revenue base, with substantial contributions from cloud services, IoT solutions, and other value-added offerings. This diversification reduces reliance on the shrinking margin of commodity internet access. - Higher customer loyalty and lower churn, as customers engaged with multiple Tengyue services have more reasons to stay (and are under contract for bundled packages). Improved customer satisfaction due to better support and relevant services will further reinforce loyalty. - Competitive differentiation in the Quzhou market: Tengyue will offer something competitors do not – personalized, one-stop solutions with local support. National carriers might still beat on price for a standalone broadband line, but Tengyue's bundles and service quality can justify a price premium and attract customers who need more than basic connectivity. - Internally, the company will have strengthened capabilities – an upskilled workforce comfortable with cloud/IoT technologies, a culture of innovation (continuously looking for the next improvement or service to offer), and modernized IT systems that streamline operations. - Financially, Tengyue should return to a healthy growth trajectory, potentially regaining revenue growth in the high single digits or low double digits annually, and improving profitability through higher-margin services and reduced churn (since retaining customers is cheaper than acquiring new ones).

Limitations of the Study: While the strategic plan is built on thorough research, it's important to acknowledge its limitations. First, some analyses relied on simulated data and assumed expert judgments (via the Delphi simulation) rather than real-world data from Tengyue (which was limited) – this introduces uncertainty. The projected impact of initiatives (e.g. churn dropping to 8% or ARPU doubling) is based on benchmarks and models; actual results may differ due to unmodeled factors. We mitigated this by using conservative estimates where possible and aligning with industry cases, but the risk remains that real customer behavior could surprise us.

Second, the plan has not been tested in practice – it is a forward-looking strategy. Implementation challenges could arise that were not fully anticipated (for example, perhaps local SMEs are slower to trust a small provider for cloud services than we thought, requiring more time or marketing). The generalizability of the recommendations may be limited to similar contexts (regional ISP in a developing digital market); if conditions differ (say in a market without supportive policy or with even fiercer competition), results could vary.

Another limitation is the external environment's unpredictability: market and technological shifts could accelerate or change direction. If a disruptive technology (beyond what we considered, like some new satellite internet service or government policy change) emerges, parts of the strategy might need revision. For instance, if satellite broadband became cheap and prevalent by N+2 (not likely, but hypothetically), Tengyue might have to pivot more toward services and possibly exit some infrastructure investments. We built flexibility into the plan, but not every scenario can be accounted for.

Future Research and Recommendations: Going forward, there are several areas where further investigation would be valuable: 1. Post-Implementation Evaluation: Once Tengyue begins implementing the transformation, a study could be done to evaluate the outcomes vs. the plan's predictions. For example, research in N+2–N+3 could collect actual customer satisfaction and financial data to assess which initiatives delivered as expected and which didn't. This feedback would be invaluable for Tengyue to refine its strategy and for other regional ISPs to learn best practices. 2. Financial Modeling and Investment Analysis: While this thesis touched on budget allocations, a more detailed financial study (perhaps as a follow-up project) could model the ROI of each initiative, perform sensitivity analyses on key assumptions (like uptake rates or partnership revenue splits), and help optimize resource allocation. This could involve scenario analysis (pessimistic vs optimistic uptake) to prepare Tengyue's management for different financial outcomes and plan contingencies (like securing additional financing if needed for a slower payoff scenario). 3. Technical Implementation Deep-Dive: Future work could also dive deeper into the technical side of the transformation – for example, designing the IT architecture for integrating cloud services, evaluating different vendors for the mobile app or CRM system, and outlining a detailed cybersecurity plan. This kind of research (possibly done in collaboration with technical consultants) would complement the strategic plan by ensuring the chosen solutions

are robust and scalable. 4. Comparative Studies with Peer ISPs: It would be useful to compare Tengyue's transformation with similar ISPs in other regions or countries. A future researcher could conduct a multi-case study of several regional ISPs attempting digital transformation to generalize findings on what works well or poorly. This can provide broader lessons for the industry and might reveal alternative strategies or innovative ideas Tengyue could adopt (or pitfalls to avoid).

In conclusion, this thesis presented a roadmap for Quzhou Tengyue Network Co., Ltd. to transition from a vulnerable regional ISP to a resilient, growth-oriented digital service provider. The recommendations were crafted through a comprehensive analysis of the company's internal and external environment, drawing on proven strategic frameworks and adapted to Tengyue's unique context. While implementation will undoubtedly face challenges, the structured approach and controls proposed (Balanced Scorecard, phased rollout, governance measures) give Tengyue a strong chance to navigate the journey successfully. If the plan is executed with commitment and flexibility, Tengyue can not only defend its turf against larger competitors but also carve out a profitable niche as a trusted local partner in the digital lives of Quzhou's businesses and residents. In doing so, Tengyue would transform its perceived weakness – small size and locality – into a strength, by being closer and more responsive to customers than any outsider could be. This strategic transformation, therefore, is not just about adding services; it's about repositioning Tengyue's role in the ecosystem as an agile innovator and integrator, ensuring its long-term sustainability and contribution to the region's digital development.

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Appendix A – Customer Survey Questionnaire (Tengyue Digital Transformation)

Dear respondent, Tengyue Network Co., Ltd. is conducting a survey to gather feedback on our internet services and to understand customer needs for new digital services. Your responses will help us improve and introduce new offerings as part of our digital transformation. This survey is anonymous and will take about 5–10 minutes. Thank you for your time!

Part I: Basic Information

1. **Customer Type:** Are you a Tengyue customer as an individual/household or a business?

- ( ) Residential customer
- ( ) Business/SME customer

2. **Tenure with Tengyue:** How long have you been a Tengyue customer?

- ( ) Less than 1 year
- ( ) 1–3 years
- ( ) 3–5 years
- ( ) More than 5 years

3. **Current Services Used:** Which of the following services do you currently have from Tengyue? (Select all that apply)

- [ ] Home broadband (internet access)
- [ ] Business broadband (internet access)
- [ ] Telephone/VoIP service
- [ ] None (not currently a Tengyue customer) *(If "None," please skip to Part IV)*

4. **Usage Profile:** For residential customers: How many people in your household use Tengyue's internet service? ___ people. For business customers: How many employees use Tengyue's services at your site? ___ employees.

Part II: Service Quality Feedback *(Using a scale of 1 to 5, where 1 = "Very Dissatisfied" and 5 = "Very Satisfied," please rate your satisfaction with the following aspects of Tengyue's current services.)*

5. **Internet Connection Reliability:** (e.g. consistency of speed, uptime) – Rate 1–5:

6. Internet Speed and Bandwidth: Does the service speed meet your needs? – Rate 1–5:

7. **Customer Service Responsiveness:** (e.g. ease of reaching support, problem resolution) – Rate

1–5:

8. Billing and Account Management: (e.g. clarity of bills, ease of payment) – Rate 1–5:

9. **Overall Satisfaction with Tengyue:** – Rate 1–5: ___

(Optional: Please briefly state if you have any particular complaints or areas of excellence regarding Tengyue's current service.)

Part III: New Services and Expectations

Tengyue is considering introducing new services. Please indicate your level of interest or agreement with the following statements.

1. **Interest in Cloud Services:** "I would be interested in using cloud-based services (such as online data backup, cloud storage or software applications) provided by Tengyue."
    - ( ) 5 – Strongly Agree
    - ( ) 4 – Agree
    - ( ) 3 – Neutral
    - ( ) 2 – Disagree
    - ( ) 1 – Strongly Disagree
2. **Interest in Smart Home/Security Services (for Residential):** "I would be interested in an affordable smart home package from Tengyue (e.g. security cameras, smart alarms, smart devices that come with installation and support)." *(Business customers can consider a "smart office security" package when answering.)*
    - ( ) 5 – Very interested
    - ( ) 4 – Interested
    - ( ) 3 – Might consider
    - ( ) 2 – Not very interested
    - ( ) 1 – Not at all interested
3. **Bundle Preference:** "I prefer to get multiple services from one provider in a bundle (for example, internet + cloud backup + security) if it saves me money and is convenient."
    - ( ) Yes – I strongly prefer bundled services from one provider

- ( ) Maybe – I might prefer a bundle if it's a good deal
- ( ) No – I prefer to choose the best provider for each service separately

4. **Expected Quality:** "If Tengyue offers new services (like cloud or smart home), I expect the quality and reliability to be on par with leading national providers."
   - ( ) 5 – Strongly Agree (I will only use it if quality is equal to top providers)
   - ( ) 4 – Agree
   - ( ) 3 – Neutral/Don't know
   - ( ) 2 – Disagree (I'm okay if it's slightly lower quality given local support)
   - ( ) 1 – Strongly Disagree
5. **Price Sensitivity:** For new services such as cloud storage or smart home monitoring, how important is price vs. brand?
   - ( ) I would switch to Tengyue's service even if it's priced similarly to my current solution, for the convenience/local support.
   - ( ) I would only use Tengyue's new services if they are cheaper than alternatives.
   - ( ) Price isn't important to me; I care more about quality and trust.

Part IV: Additional Feedback

15. **Service Improvement Suggestions:** In your opinion, what is one key improvement Tengyue should make to its current services? (e.g. higher speed, more support staff, loyalty rewards, etc.)

- _____

16. New Service Suggestions: Are there any services or features you wish Tengyue would offer in the future? (Please describe)

- _____

17. **Likelihood to Recommend:** On a scale of 0 to 10, how likely are you to recommend Tengyue to a friend or colleague? (0 = Not at all, 10 = Extremely likely)

- __/10

Thank you for completing this survey! Your feedback is invaluable in helping Tengyue innovate and serve you better. We appreciate your time.