



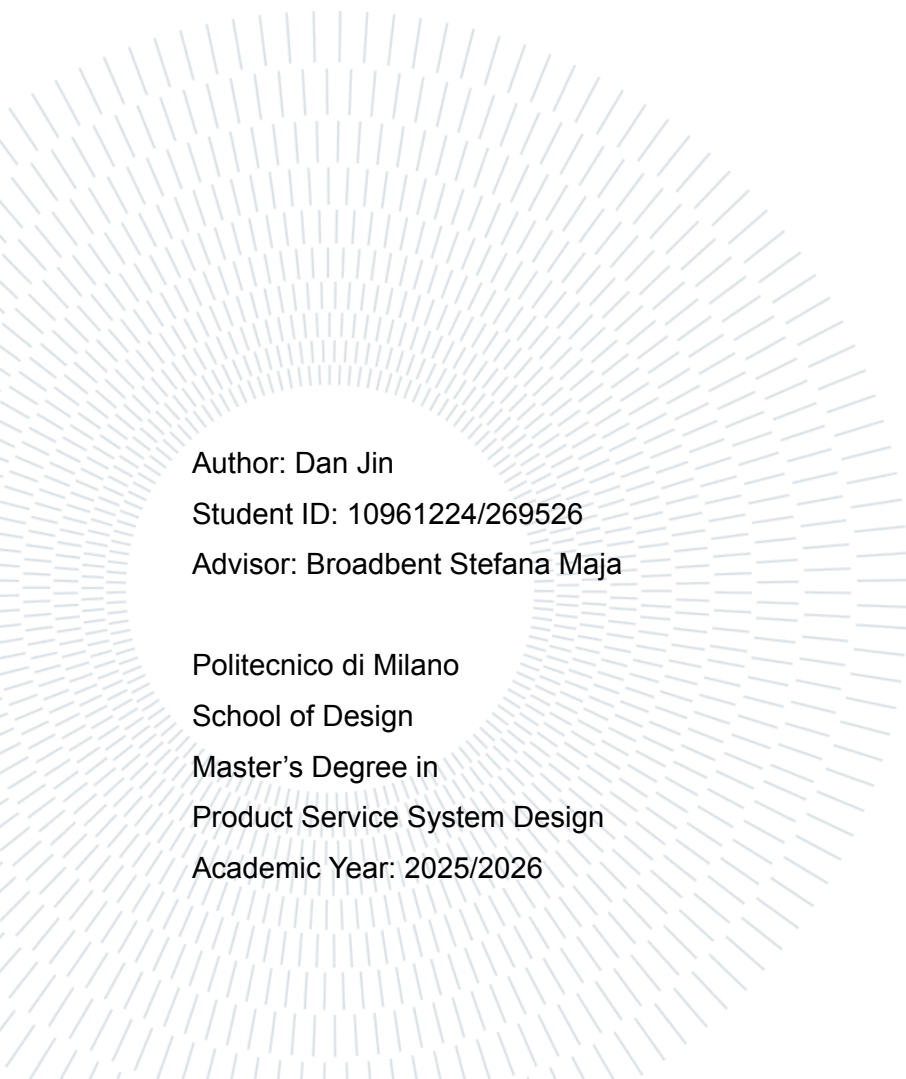
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From User-Centred to System-Constrained Design: Reframing Innovation Pathways in China's Internet Industry

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Abstract:

Innovation in China's internet industry is increasingly shaped by organisational complexity, platform governance, and risk control, rather than by user needs alone. While user-centred design has long been treated as the dominant paradigm of product and service innovation (Norman, 2013), its explanatory power is increasingly limited in digitally mediated and AI-driven contexts, where innovation is conditioned by organisational structures, governance logics, and regulatory frameworks (van Velsen, Ludden and Grünloh, 2022).

Drawing on service design and social innovation, this paper examines how design teams participate in Scrum-like workflows in Chinese internet companies, and how internal organisational structures shape innovation pathways in China's internet industry. Rather than treating innovation as a purely user-driven or technology-driven process, the study understands it as something generated, filtered and implemented through organisational workflows, platform logics and systemic constraints. Methodologically, the study combines a literature review with semi-structured interviews to analyse how design teams negotiate user value, business value and broader social value within everyday product development practices.

The findings identify a key gap in social innovation research: insufficient attention to the organisational and institutional conditions of China's internet industry. In response, the paper proposes a shift from user-centred design to a system-constrained understanding of innovation. By integrating perspectives from social innovation and service design, it develops a workflow framework for innovation under organisational constraints, offering a context-sensitive approach to innovation practice in China's internet industry.

Keywords: social innovation, service design, organisational structure, Internet industry, agile development, scrum

Riassunto:

L'innovazione nell'industria cinese di Internet è sempre più influenzata dalla complessità organizzativa, dalla governance delle piattaforme e dai meccanismi di controllo del rischio, piuttosto che esclusivamente dalle esigenze degli utenti. Sebbene il design centrato sull'utente sia stato a lungo considerato il paradigma dominante nell'innovazione di prodotti e servizi (Norman, 2013), la sua capacità esplicativa appare sempre più limitata nei contesti digitalmente mediati e guidati dall'intelligenza artificiale, nei quali l'innovazione è condizionata dalle strutture organizzative, dalle logiche di governance e dai quadri normativi (van Velsen, Ludden and Grünloh, 2022).

Basandosi sulle prospettive del service design e dell'innovazione sociale, il presente studio analizza il modo in cui i team di design partecipano a flussi di lavoro simili a Scrum nelle aziende cinesi del settore Internet e come le strutture organizzative interne influenzino i percorsi dell'innovazione nell'industria cinese di Internet. Anziché considerare l'innovazione come un processo determinato esclusivamente dagli utenti o dalla tecnologia, lo studio la interpreta come un fenomeno generato, filtrato e attuato attraverso flussi di lavoro organizzativi, logiche di piattaforma e vincoli sistemici. Dal punto di vista metodologico, la ricerca combina una revisione della letteratura con interviste semi-strutturate, al fine di analizzare come i team di design negozino il valore per l'utente, il valore aziendale e il più ampio valore sociale nell'ambito delle pratiche quotidiane di sviluppo dei prodotti.

I risultati individuano una lacuna significativa nella ricerca sull'innovazione sociale: l'insufficiente attenzione riservata alle condizioni organizzative e istituzionali dell'industria cinese di Internet. In risposta a tale lacuna, lo studio propone il passaggio da un approccio centrato sull'utente a una concezione dell'innovazione condizionata dal sistema. Integrando le prospettive dell'innovazione sociale e del service design, la ricerca sviluppa un modello di flusso di lavoro per l'innovazione sottoposta a vincoli organizzativi, offrendo un approccio sensibile alle specificità del contesto per le pratiche di innovazione nell'industria cinese di Internet.

Parole chiave: innovazione sociale, service design, struttura organizzativa, industria di Internet, sviluppo agile, Scrum

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1.Introduction

China's internet industry has experienced rapid expansion over the past two decades and has gradually become a key infrastructure for the country's digital economy, platform economy, and everyday life. By the end of 2024, the number of internet users in China had reached approximately 1.1 billion. The internet industry is reshaping people's ways of living, while applications such as online payment, short video platforms, e-commerce and local life services have become deeply embedded in the daily practices of users (CNNIC, 2025). Within the broader national context, the digital economy has also been incorporated into China's national development strategy. The *14th Five-Year Plan for Digital Economy Development* states that, by 2025, the added value of core digital economy industries should account for around 10% of GDP. This indicates that the internet and digital technologies are no longer merely commercial tools, but have become important forces through which the state promotes economic transformation, industrial upgrading, and the modernisation of governance (State Council of the People's Republic of China, 2022).

Based on this background, China's internet industry has entered a transitional stage from incremental growth to stock-based era, and the demand for innovation has also changed. In the early stage, the growth of Chinese internet companies mainly relied on the expansion of user scale, traffic dividends, and rapid commercialisation. However, as the number of internet users approaches saturation, user growth slows down, and competition among platforms becomes more intense, a growth model based simply on traffic, subsidies, and efficiency has become increasingly difficult to sustain. Chinese internet companies therefore need to shift from "scale-expansion-oriented innovation" to "value-creation-oriented innovation". In other words, China's internet industry still needs innovation, but such innovation should not only be understood as technological upgrading or business model iteration. It should also be seen as a process of reorganising the relationships between services, users, enterprises, and social value within a constrained system environment. In both official and industry discussions, there has also been a visible shift from the consumer internet towards the industrial internet, digital governance, and high-quality development. This further suggests that internet innovation is no longer only a matter of market growth, but has become a more complex organisational and social issue (Lu, 2025; State Council of the People's Republic of China, 2022).

This chapter first introduces the main characteristics of China's internet industry as an "innovation context constrained by systems". It then discusses how agile development has become a dominant organisational approach in internet product development, particularly

within internal product development and team management in internet companies. The chapter further analyses the changing role of design teams within agile development processes and the practical challenges they face. On this basis, the chapter introduces the theoretical perspectives of service design and social innovation, explaining why they can help researchers understand broader questions of value creation in internet product development. Finally, this chapter clarifies the problem statement, research aims, and research questions of the present study, thereby laying the foundation for the following literature review and empirical analysis.

1.1 Background

By 2026, China had been connected to the global internet for 32 years. China formally gained access to the international internet in 1994, a moment that is widely regarded as the starting point of the country's internet development (Yang, Gu and Lv, 2024). After entering the twenty-first century, companies such as Baidu, Alibaba and Tencent gradually laid the foundation for China's platform economy. Their businesses expanded from early areas such as search, e-commerce and instant messaging into wider ecosystems, including digital entertainment, online finance, cloud computing, artificial intelligence and local life services (Su and Flew, 2021). Especially after 2008, the combined effects of mobile internet technologies, government investment, digital consumer culture and platform-based business models further accelerated the rapid growth of China's digital economy (AliResearch, Baidu Development Research Center and Bain & Company, 2021).

In terms of market scale, according to the 2024 report by the China Internet Network Information Center, China had approximately 1.108 billion internet users, while 99.7% of them accessed the internet through mobile phones. This suggests that the mobile internet has almost become the default gateway for internet use in China (CNNIC, 2025). At the same time, internet services in China have become deeply integrated into everyday life. Services such as instant messaging, social networking, online video, online payment, online shopping, food delivery, ride-hailing and online healthcare each have user bases reaching hundreds of millions (CNNIC, 2025). For example, by the end of 2024, the number of online payment users in China had reached 1.029 billion, accounting for 92.8% of all internet users. The number of online shopping users reached 974 million, accounting for 87.9%, while food delivery users reached 592 million, accounting for 53.4% (CNNIC, 2025). These figures show that Chinese internet platforms are no longer merely channels for information communication. Rather, they have become a form of infrastructure that connects consumption, payment, mobility, food services, entertainment, healthcare and public services. This large user base provides internet companies with the conditions for rapid

experimentation, data accumulation, network effects and service diffusion, making China's internet industry a large-scale field for innovation and experimentation.

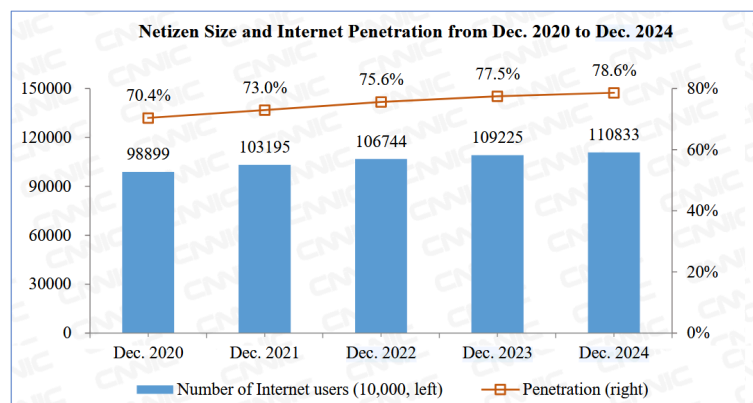


Figure 01. Chinese Netizen Size and Internet Penetration from Dec. 2020 to Dec. 2024

Source: China Internet Network Information Center (CNNIC) (2025, p. 12)

In terms of Innovation, innovation in China's internet industry is, first of all, platform-led innovation. Many new services do not emerge in a fully independent market space. Instead, they are developed, tested and scaled within the traffic entrances, technical infrastructures and commercial rules already established by large platform companies. Tencent's WeChat provides a typical example of this platform-led logic. WeChat was initially launched as an instant messaging tool, but it has gradually developed into a super app that integrates social relationships, mobile payment, Mini Programs, Official Accounts, Channels, search, e-commerce and everyday services. Tencent's annual reports show that the combined monthly active accounts of Weixin and WeChat reached 1.385 billion in 2024 and further increased to 1.418 billion in 2025 (Tencent, 2026). This indicates that WeChat is not only a communication tool, but also an infrastructure for organising everyday services, commercial transactions and digital interactions. Similarly, Alibaba organises ecosystems around e-commerce, payment, logistics and enterprise digitalisation through Taobao, Tmall, Alipay, Alibaba Cloud, Cainiao and local life services. Meituan, meanwhile, connects offline merchants and consumers through food delivery, in-store services, hotel booking, travel, on-demand delivery and local life services. It can therefore be argued that the innovation environment of China's internet industry is strongly shaped by platformisation. In this context, innovation is often attached to, and conditioned by, the user scale, data capabilities, algorithmic systems and ecosystem boundaries of large platform companies.



Figure 02. Major digital platform players across key verticals in China
Source: Abacus, 500 Startups and South China Morning Post (2018, p. 4)

1.1.1 China's Internet Industry as A System-constrained Innovation Context

Against this background of platformisation, China's internet industry can be further understood as an "innovation context constrained by systems", as shown in Figure 03, the term "system" does not refer to a single technological system. Rather, it describes a complex structure formed by national policies and regulation, platform-based corporate ecosystems, market competition, and organisational mechanisms of execution. This system provides resources, direction, and market space for innovation, while also defining its boundaries, speed, forms, and value orientations.

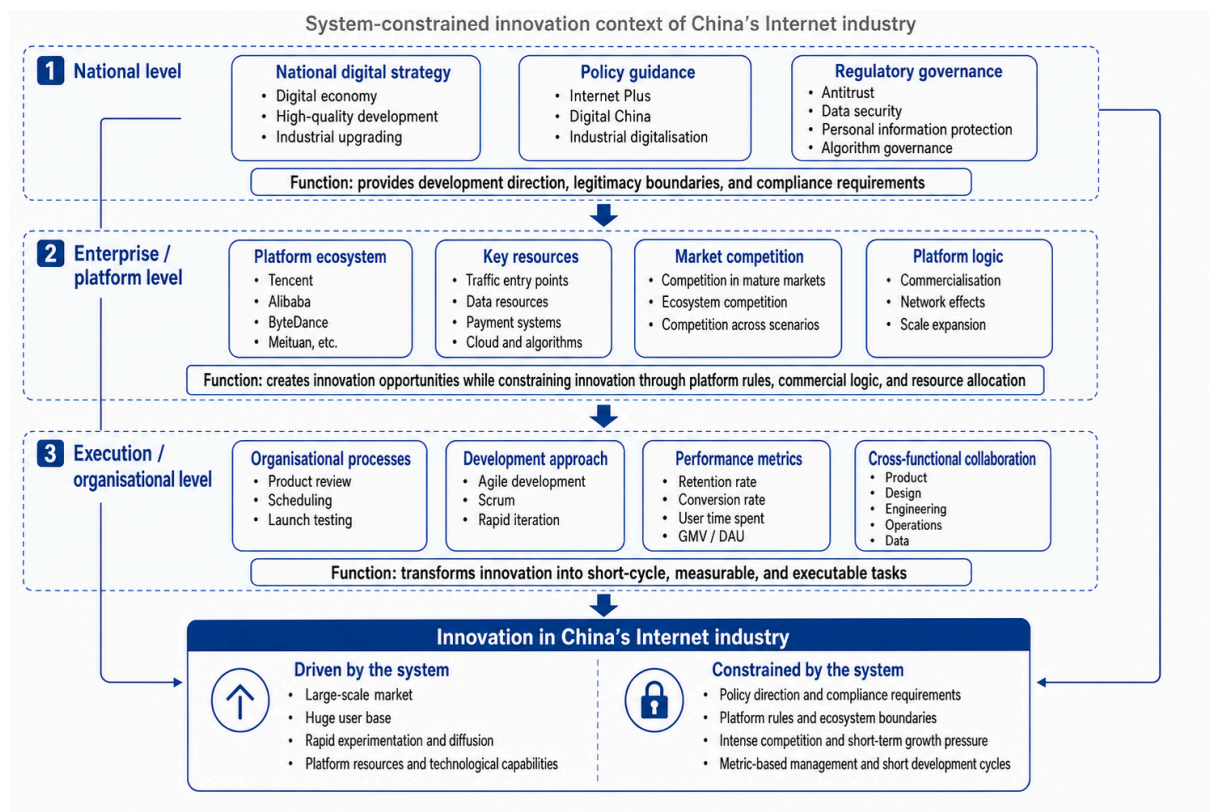


Figure 03. China's Internet Industry in a System-constrained innovation context
Source: Author

At the national level, the state both promotes and regulates digital development. Policies such as the “Internet Plus” action plan encouraged the integration of internet technologies with traditional industries (State Council, 2015), while the 14th Five-Year Plan for Digital Economy Development positioned the digital economy as a key national strategy (State Council of the People’s Republic of China, 2022). At the same time, anti-monopoly rules, data security laws, personal information protection laws and algorithm governance have set clearer boundaries for platform companies and internet services (Anti-Monopoly Commission of the State Council, 2021; NPC, 2021a; NPC, 2021b; CAC, 2022).

At the platform level, innovation is shaped by large internet ecosystems. Companies such as Tencent, Alibaba, ByteDance, Baidu, JD.com, Meituan and PDD Holdings control important resources, including users, data, payment systems, traffic distribution, logistics, cloud computing and algorithmic infrastructure. The platform economy depends on these infrastructures to match transactions, distribute content and manage processes (Huang, 2022). Therefore, many new services are not developed in an independent market space, but are embedded within existing platform ecosystems. This improves the speed and scale of innovation, but also means that innovation must fit platform rules, business models and growth goals.

At the organisational level, these constraints enter daily product development. Innovation is carried out through collaboration between product, design, development, data, algorithm, operations and business teams. Methods such as agile development, rapid iteration, A/B testing and data dashboards help teams respond quickly to market changes, but they can also turn innovation into short-cycle, measurable tasks. Therefore, this study focuses on the execution and organisational level, because it is where national policy, platform logic and market pressure are translated into concrete product decisions. This perspective also helps explain how design teams participate in value judgement, coordinate different needs, and extend user, service and social value within product development processes.

1.1.2 The Rise of Agile and Scrum in Product Development

The term Agile originally comes from the Latin word *agilis*, meaning “flexible” or “quick-moving”. In the context of software development, Agile refers to a methodology centred on rapid responses to change, cross-functional collaboration, continuous iteration, and the delivery of working products (Online Etymology Dictionary, n.d.; Agile Alliance, n.d.).

The rise of Agile methods mainly responds to the high level of uncertainty in internet product development. Unlike the traditional waterfall model, as shown in Figure 04, waterfall

development usually assumes that requirements can be fully defined at the early stage. It then follows a linear process from requirements, design, development, testing, to final delivery. Internet products, however, often need to be adjusted continuously after launch through user feedback, data performance, and market changes. The Agile Manifesto states that “individuals and interactions” are valued over “processes and tools”, “working software” over “comprehensive documentation”, “customer collaboration” over “contract negotiation”, and “responding to change” over “following a plan” (Beck et al., 2001). These principles directly respond to the characteristics of the internet industry, where user requirements change frequently, market opportunities are often short-lived, and cross-functional collaboration is intensive. The twelve principles of Agile also emphasise satisfying customers through the “early and continuous delivery of valuable software” and welcoming changing requirements, even in the later stages of development (Beck et al., 2001). Therefore, Agile is not only a method for improving development efficiency, but also an execution mechanism for continuously optimising product value in uncertain environments.

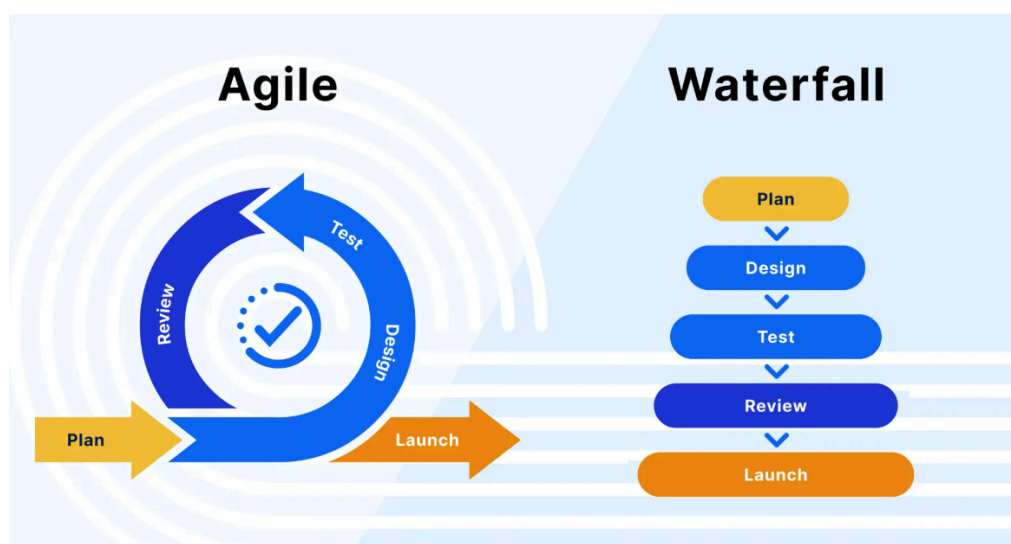


Figure 04. Comparison between Agile and Waterfall workflows

Source: Agile Project Delivery (2025)

In the internet industry, the value of Agile is particularly reflected in three aspects. First, it reduces the risk of “building the wrong product”. Through version releases, grey release testing, and online experiments, teams can continuously improve the product. Therefore, the logic of “deliver first, learn from it, and then improve” is more suitable for digital products than the traditional model of “design everything first and release it all at once”.

Second, Agile turns product development into a continuous feedback loop. It strengthens the connection between user feedback and product decision-making. User behaviour data

collected by internet companies, A/B testing, event tracking analysis, and operational feedback allow teams to test their assumptions in the real market. Agile's short-cycle iteration provides an organisational mechanism for this feedback loop.

Third, Agile improves cross-functional collaboration. Internet product development usually requires the participation of multiple functional roles. Through short-cycle iteration, frequent communication, and shared goals, Agile reduces the delays in information flow and the breaks in responsibility that often appear in traditional handover-based departmental development (Beck et al., 2001).

In practice, Scrum has become one of the most common Agile frameworks in internet product development because it translates the abstract values of Agile into a concrete way of organising teamwork. Scrum is a collaborative framework based on empiricism. Its core logic is to manage complex product development through transparency, inspection, and adaptation (Schwaber and Sutherland, 2020). Scrum is organised around the Sprint. Each Sprint usually lasts no more than one month and includes activities such as Sprint Planning, Daily Scrum, Sprint Review, and Sprint Retrospective (Schwaber and Sutherland, 2020). Within this framework, the Product Owner is responsible for managing the Product Backlog and prioritising work according to user value and business goals. The Scrum Master helps the team understand and practise Scrum, removes obstacles, and supports continuous improvement. Developers are responsible for delivering usable product increments within each Sprint (Schwaber and Sutherland, 2020).

This structure is suitable for internet products because it does not require teams to predict all requirements at the beginning. Instead, it allows them to make short-term commitments, complete delivery, collect feedback, and adjust direction in the next iteration. The Scrum Guide also emphasises that a Scrum Team should be cross-functional and self-managing, usually with no more than ten people, in order to maintain communication efficiency and rapid responsiveness (Schwaber and Sutherland, 2020).

The rise of Agile and Scrum in internet product development is not an accidental management trend. Rather, it is the result of the characteristics of digital products and user feedback mechanisms working together. From the perspective of Agile, the innovation path of internet companies can be understood as a dynamic process that starts from user feedback, uses short-cycle iteration as its method, and takes continuous learning as its core.

1.1.3 Design Teams in Agile Development

In Agile development, the role of design teams has changed significantly. Traditional product development usually treats design as a preliminary stage before development. However, in Agile development for internet products, requirements, user feedback, and product direction continue to change through iteration. As a result, design can no longer be understood as early-stage work completed only once. Instead, design teams need to continuously participate in product discovery, requirement clarification, prototype validation, interface design, and experience optimisation. They also need to adjust their design judgments within a constantly changing product context.

In the context of Scrum, design teams are not positioned as a separate “upfront department” outside the development process in the traditional sense. Rather, they are embedded into the iterative rhythm of the sprint. The relationship between design and Agile is therefore double-sided. On the one hand, both emphasise user or customer value and improve products through continuous feedback. On the other hand, design as a discipline usually requires more time for problem definition, user research, and overall experience planning, while Scrum emphasises short-cycle sprints, rapid delivery, and cross-functional collaboration. This creates tension between the two in terms of working rhythm and process. Existing research suggests that the key to integrating UX and Agile is not to make design fully follow the pace of development. Instead, user-centred design methods need to be adjusted into lighter and more iterative forms. For example, approaches such as Little Design Up Front, Sprint 0, one sprint ahead, prototypes, design cards, and usability acceptance criteria can help design judgments enter the backlog, sprint planning, and later development process in time (Silva da Silva et al., 2012).

Among these approaches, Sprint 0 is an important concept for understanding how design teams enter the Agile process. In discussions of Agile-UX, Sprint 0 usually refers to a preparatory stage before formal development iterations begin. Although Sprint 0 is not an official concept in the Scrum Guide, in the practice of design teams participating in Agile development, it is often seen as an important way to connect user-centred design with the iterative mechanism of Scrum (Schwaber and Sutherland, 2020). Unlike the large amount of upfront design in traditional waterfall development, Sprint 0 is closer to Little Design Up Front. It involves a small but necessary amount of user research and design exploration before development begins. Silva da Silva et al. point out that Sprint 0 can take place before implementation, or even before the formal project kick-off. Its activities usually include contextual inquiry, observation, task analysis, user interviews, paper prototypes, design cards, and initial user stories. The purpose is to allow design teams to bring user insights into

later sprint planning and development plans in a timely way (Silva da Silva et al., 2012). Therefore, Sprint 0 is not intended to complete the whole design in advance. Rather, it helps the Scrum team form a basic understanding of users, product direction, and experience assumptions before entering rapid iteration.

Ideally, designers should become part of the cross-functional Scrum team, working with the Product Owner, Scrum Master, developers, and testers to understand user needs, break down user stories, define experience criteria, and bring feedback into the next iteration through sprint reviews or usability testing. However, practical studies also show that design teams often do not truly become core members of Scrum teams. Instead, they may work as shared resources supporting several projects at the same time. This can prevent designers from conducting research and design one sprint ahead, and can also make it difficult for them to influence product decisions at key moments (Silva da Silva et al., 2012). Therefore, design teams in Agile are both guardians of user experience value and coordinators among product goals, technical implementation, and organisational rhythm.

1.1.4 Service Design and Social Innovation in Organisational Practice

If Agile development explains how design becomes embedded in the rapid iteration process of internet products, then service design further expands the role of design from single product development to more complex contexts of organisational and social innovation. In internet product development, Agile and Scrum mainly help teams continuously improve products through short-cycle iteration, user feedback, and cross-functional collaboration. However, in broader organisational practice, innovation often does not take place only within a specific app, platform, or interface. Instead, it emerges across service processes, organisational structures, stakeholder relationships, and social needs. It is in this context that service design becomes an important approach for connecting design, organisational innovation, and social innovation.

The core of service design is to expand the object of design from a “product” to a “service system”. It is concerned not only with the user experience at a specific touchpoint, but also with how the people, processes, technologies, and organisational resources behind these touchpoints work together. Nielsen Norman Group defines service design as the planning and organisation of an organisation’s resources, including people, objects, and processes, in order to improve both customer experience and employee experience (Gibbons, 2022). This definition shows that service design is not simply about making service interfaces more attractive. Rather, it helps organisations understand how services are produced, delivered, and experienced. In organisational practice, service design makes problems visible that were

previously scattered across different departments, roles, and systems. In this way, it provides a more holistic perspective on innovation.

This holistic perspective also makes service design closely related to social innovation. Social innovation usually refers to new solutions that respond to social needs and social problems, with value mainly created at the social level rather than only through private gain (Mulgan, 2006; Phills, Deiglmeier and Miller, 2008). Compared with commercial product innovation, social innovation often faces more complex problems, because it involves multiple groups, different interests, limited resources, and institutional constraints. The role of service design here is to help organisations translate abstract social goals into concrete service practices. Through different design tools, organisations can more clearly identify the needs and tensions among different participants, and test new service models before actual implementation. In this way, social innovation does not remain only at the level of ideas. Instead, it can enter organisational processes that are executable, adjustable, and open to continuous improvement.

Therefore, this thesis regards service design and social innovation as an important background for understanding continuous innovation in China's internet industry. Agile development shows how internet companies promote product innovation through rapid iteration and feedback mechanisms. Service design further shows that when the object of innovation becomes a service system or a social issue, organisations need a more holistic, collaborative, and user-centred approach. It helps organisations connect front-stage experience with backstage processes, user needs with social value, and design practice with organisational change. In this sense, service design is not only a method for improving service experience. It is also an important practical pathway through which contemporary organisations respond to complex social needs, support continuous innovation, and create public value.

1.1.5 AI-powered Scrum

Turning to the current context, the rapid development of artificial intelligence is creating new changes in project management and agile development. Traditional Scrum mainly relies on team members' experience, cross-functional collaboration and short feedback cycles to manage uncertainty. As shown in Table 01, with the introduction of AI, project management is gradually moving from human experience-based judgement towards AI-assisted decision-making. In other words, AI is not only entering the development stage as a code generation or automation tool. It is also beginning to support requirement identification, user story generation, Backlog prioritisation, Sprint Planning, risk prediction, test automation, team

collaboration analysis and Retrospective documentation (Campoverde Morales, 2024; Nguyen-Duc et al., 2025).

Scrum workflow stage	AI-assisted activities	AI tools example
Requirement discovery	Analysing user feedback, customer service records, reviews, behavioural data, and market signals	ChatGPT, Claude, Gemini, Dovetail AI, Notion AI
Backlog refinement	Summarising requirements, generating user stories, comparing priorities, identifying ambiguity	Jira AI, Linear AI, ChatGPT, Microsoft Copilot
Sprint Planning	Task breakdown, effort estimation support, risk prediction, dependency mapping	Jira AI, ClickUp AI, Asana Intelligence, Copilot
Sprint Execution	Coding, debugging, documentation, UX writing, interface exploration, prototype generation	GitHub Copilot, Cursor, ChatGPT, Figma AI, Uizard, Galileo AI
Review and testing	Usability issue clustering, test summary generation, bug analysis, feedback comparison	Maze AI, Dovetail AI, ChatGPT, Jira AI
Retrospective and learning	Meeting summaries, collaboration issue detection, knowledge sharing, process improvement suggestions	Microsoft Copilot, Notion AI, Miro AI, Confluence AI

Table 01. Examples of AI tools across Scrum workflow

Source: Author

The changes brought by AI to Scrum are therefore not just local tool updates, but a broader shift in which agile workflows become increasingly data-driven, predictive and semi-automated. One of the most important changes is that the early management stage of Scrum is moving from “human experience-driven requirement organisation and priority judgement” towards “AI-assisted requirement identification, classification and prioritisation”. AI turns many judgement processes that previously relied on individual experience and team discussion into decisions supported by data analysis, pattern recognition and predictive models. However, this shift also creates new tensions.

Tension 1: AI makes agile iteration appear faster, but it does not necessarily improve overall efficiency.

AI can significantly speed up early-stage generation, such as producing user stories, requirement summaries, test cases and draft documents. However, the use of AI often moves time costs from “early production” to “later verification”. Teams need to spend more time checking whether AI-generated content is accurate, contextually appropriate, free from hallucinations, and aligned with business logic and user needs. In other words, AI accelerates generation, but also increases the cost of validation, correction and responsibility confirmation.

Tension 2: Agile emphasises reducing documentation burden, but AI requires more structured data and process records.

Agile methods traditionally emphasise reducing unnecessary documentation. The Agile Manifesto states “working software over comprehensive documentation”, meaning that agile does not reject documentation, but prioritises working software over excessive documents (Beck et al., 2001). However, AI-powered Scrum increases the need for documentation and historical data. On the one hand, Scrum still emphasises rapid iteration, lightweight communication and the reduction of ineffective documentation. On the other hand, AI models require large amounts of structured, traceable and reusable data to work effectively. In this sense, process records that were previously treated as low priority in agile practice may become organisational knowledge assets in AI-assisted workflows. This is especially important for design teams, because user research reports, experience issue records, journey maps, usability testing findings, design rationale and user feedback from Sprint Reviews may all become important data sources for future AI-assisted requirement identification and value judgement in Scrum.

1.1.6 Scrum Workflow Transition in the Age of AI

From the perspective of roles, it is necessary to examine how the roles within the Scrum Team are changing in order to further understand the impact of AI-powered Scrum on agile iteration. As shown in Table 02, in AI-assisted Scrum, AI has already begun to participate in requirement identification, Backlog prioritisation, Sprint Planning, test automation, risk prediction and Retrospective analysis (Campoverde Morales, 2024). Therefore, the change in Scrum roles does not mean that existing responsibilities disappear. Rather, the focus of these responsibilities shifts from manual execution to the interpretation, validation and governance of AI-generated outputs.

Scrum role/capability	Responsibilities in traditional Scrum	Responsibilities in AI-powered ScrumAI	Role transition in Age of AI
Product owner	1. Defines product goal 2. Clarifies requirements 3. Manages and prioritises the Product Backlog 4. Maximises product value through stakeholder and user input.	1. Use AI to support requirement analysis, data analysis, user story generation and backlog refinement 2. Ensure AI-assisted decisions still align with user value, business goals and product strategy	From Backlog manager To AI-assisted value decision maker
Scrum master	1. Establishes Scrum 2. Facilitates Scrum events and	1. Use AI to support routine activities such as meeting summaries,	From Process facilitator

	team collaboration. 3.Removes impediments and supports team effectiveness 4.Routine activities management	progress tracking 2.Guides responsible AI use within the team 3.Manage human-AI collaboration and responsibility boundaries	To Human-AI collaboration facilitator
Development team	1.Builds, tests and integrates the product increment 2.Estimates tasks and contributes to Sprint planning 3.Delivers Sprint goals	1.Use AI to support coding, debugging, testing, documentation and risk prediction 2.Verifies and integrates AI-generated outputs	From Task executor To AI-output validator
Designers	1.Conduct user research and interpret user needs 2.Create user flows, prototype and interface solutions 3.Evaluate usability and user experiences	1.Use Ai to support feedback clustering, persona drafting, user story generation, UX writing and prototyping 2.Evaluate whether AI-generated insights reflect real user contexts 3.Protect experience quality, user value	From Interface producer To User-value interpreter

Table 02. Transformation of Scrum roles in the age of AI

Source: Author

However, this thesis treats designers as a separate analytical category, because its focus is on how design teams participate in Scrum-like workflows. In AI-powered Scrum, designers become particularly important. AI can generate user stories, user personas and design proposals, but it cannot fully judge whether these outputs reflect real user contexts, experience quality or social value.

From the perspective of requirements, in the AI era, requirements no longer come only from traditional user interviews or the Product Owner's judgement. They are increasingly generated through the analysis and aggregation of multiple data sources. Machine learning and natural language processing can extract recurring problems from user reviews, behaviour logs, customer service feedback, issue reports and historical project records. They can also cluster similar needs, identify missing information and assist in generating user stories (Campoverde Morales, 2024; Zhang et al., 2024). This change improves the speed and coverage of requirement formation, but it may also weaken the deep understanding of user context. From the workflow perspective, the core change is that AI is embedded into multiple points of the Scrum process. Compared with traditional Scrum, as shown in Figure 05, Scrum in the AI era becomes a cycle with an additional AI data feedback layer.

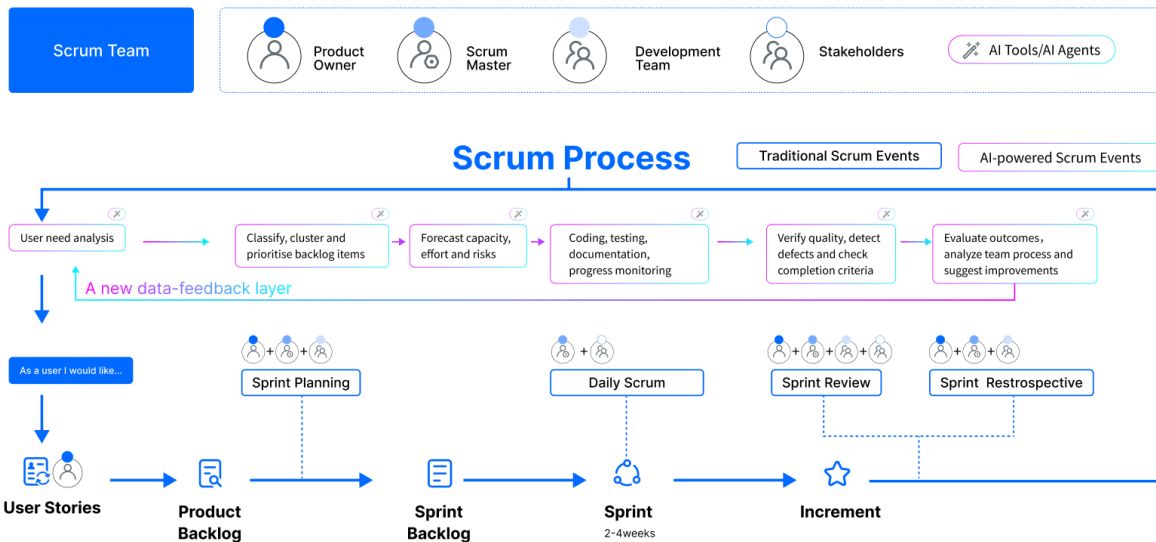


Figure 05. Scrum process
Source: Author

1.2 Problem Statement

In China's internet industry, innovation is increasingly shaped by stock-based competition, platform governance, organisational constraints, and the rise of AI-assisted product development. Under these conditions, innovation can no longer be understood only as the launch of new functions or the improvement of short-term business metrics. Although Scrum-like workflows support rapid iteration and cross-functional collaboration, they may also compress innovation into requirement execution, delivery speed, and data performance.

This creates a specific challenge for design teams. While designers have the potential to introduce user research, service design, and social innovation perspectives into product development, their participation is often limited by fast sprint rhythms, unstable requirements, business-driven priorities, and insufficient involvement in early decision-making. As a result, design work can be reduced to UI delivery or local experience optimisation. This study therefore examines how design teams can participate in Scrum-like workflows beyond short-term functional delivery, and how they may support more user-centred, service-oriented, and socially responsible innovation practices.

1.3 Research Aim and Research Questions

Based on the problem statement, this study aims to explore how service design-driven innovation develops within Scrum-based product development processes in Chinese internet companies. More specifically, this thesis focuses on how design teams participate in product

discovery, user experience optimisation, and service value creation within the system-constrained innovation context of China's internet industry. By introducing the perspectives of service design and social innovation, this study attempts to move beyond a purely efficiency-oriented understanding of internet innovation. It further analyses how design practices can help companies shift from short-term functional iteration towards a model of innovation with stronger system awareness, long-term value, and social responsibility.

Therefore, the main research question of this study is:

How can design team/designers introduce a service design and social innovation perspective into Scrum-based organisational workflows to develop more system-aware and value-oriented innovation practices?

Around this main research question, this thesis proposes the following three sub-questions:

1. How do designers identify user needs and translate them into innovation opportunities in Chinese Internet firms?
2. How do organisational and institutional constraints shape the innovation practices of design teams within these processes?
3. How can the perspectives of service design and social innovation be integrated to construct an analytical framework for explaining internet innovation pathways under organisational constraints?

2. Literature Review

2.1 Introduction and Research Background

This chapter aims to establish the theoretical foundation of this thesis through a literature review, and to provide conceptual support for the later construction of the research framework and empirical analysis. Chapter One has already pointed out that innovation in China's internet industry is shaped by multiple constraints. It has also suggested that design may play an important role in coordinating and promoting innovation within internal organisational processes. Therefore, the central concern of this thesis is not whether innovation is important, but how innovation is generated, selected, and implemented within specific organisational processes, and how design practices participate in value judgement and organisational coordination in this process.

To understand this issue, this chapter starts from the literature on design and organisational innovation. It reviews theoretical perspectives at four levels: the user level, the

team/organisational level, the service system level, and the social value level. Based on these four levels, this chapter builds a progressive analytical structure. Through this structure, the chapter further explains how existing research understands design-driven innovation, while also identifying its limitations in the context of Scrum-based organisational workflows in Chinese internet companies.

2.1.1 Aim of the Literature Review

The aim of this literature review is to develop an integrated theoretical framework for analysing how design-driven innovation is generated, selected, and implemented within Scrum-based organisational workflows in Chinese internet companies. More specifically, this chapter does not treat UCD, Agile/Scrum, service design, and social innovation as separate theoretical fields. Instead, it understands them as complementary perspectives for explaining different levels of innovation.

By integrating these bodies of literature, this chapter aims to address three theoretical questions:

1. How does design participate in innovation by starting from user needs?
2. How is design supported or constrained within Agile organisational processes?
3. How can service design and social innovation help internet companies move beyond short-term functional iteration and develop innovation pathways with stronger system awareness and long-term value?

In this way, this chapter provides the theoretical basis for the later construction of the research framework. It also lays the foundation for the empirical analysis of the practical position, organisational constraints, and innovation opportunities of design teams in Chinese internet companies.

2.2 Review of Key Literature Themes

2.2.1 User-Centred Design and Its Limitations in Internet Product Innovation

User-Centred Design (UCD) is the first theoretical foundation for understanding design-driven innovation in this study, because it explains how design participates in product innovation through user needs, use contexts and experience feedback. UCD first emerged in the fields of human-computer interaction and system design. Its key shift was to move the focus of design from the technical system itself to users' goals, tasks, behaviours and cognitive processes. Norman and Draper describe user-centred system design as a way of

understanding computer system design from the user's perspective, stressing that design should focus on users' goals, needs, tasks and contexts of use, rather than only on technical functions (Norman and Draper, 1986). This shift means that design is no longer only an interface layer after technical development, but an important way to identify user problems, define product value and improve user experience.

In the Scrum process, although user stories are not formal artefacts required by the Scrum Guide, they are often used in practice as a way to express Product Backlog Items and translate user needs into actionable development tasks (Schwaber and Sutherland, 2020). Their basic structure usually asks who the user is, what the user wants to achieve and why this need has value, which is consistent with UCD's focus on users, tasks and contexts of use (Cohn, 2004; Maguire, 2001). Therefore, user stories can be seen as an important entry point through which UCD enters the Scrum process.

However, the integration of UCD and Scrum is not always smooth. As shown in Table 03, Scrum emphasises short-cycle iteration and rapid delivery, while UCD usually requires sufficient user research, prototyping and experience evaluation. This can cause designers to be limited to small moments before or after the Sprint, making it difficult for them to participate continuously in requirement definition and value judgement (Chamberlain, Sharp and Maiden, 2006; Ferreira, Sharp and Robinson, 2012). At the same time, user stories can become functionalised in real projects. Although they may keep the user-centred form of "As a user...", their content may mainly package system functions, business goals or development tasks, without enough real user research evidence or specific use contexts (Cohn, 2004; Lucassen et al., 2016).

Dimension	Agile/Scrum	UCD
Primary goal	Rapid delivery of working software	Deep understanding of user needs and contexts of use
Development rhythm	Short sprint	User research, testing and repeated validation require time and practice
User representation	Customer / Product Owner represents user or product needs	End users should participate directly or indirectly in design
Evidence	Lightweight documentation and face-to-face communication	Requires research records, user evidence and design documentation

Table 03. Comparison of Agile/Scrum and User-Centred Design

Source: Author

The development of AI further strengthens this tension. On the one hand, AI can help teams quickly generate user stories, acceptance criteria, summaries of user feedback and test cases, improving the efficiency of requirement organisation and Sprint preparation. On the other hand, AI-generated content may appear “user-centred” in form, but it is not necessarily based on real user research or contextual understanding. Therefore, AI does not replace UCD. Instead, it strengthens the role of UCD as a validation framework, helping teams judge whether AI-generated requirements, solutions and decisions truly respond to user needs, use contexts and experience value (Bannon, 2011; Shneiderman, 2020).

Therefore, the role of UCD in this research framework is to provide a starting point for understanding how design identifies and validates user needs, rather than a complete framework for explaining the innovation mechanisms of internet companies. For Chinese internet companies, user needs do not automatically become innovation opportunities, but must be filtered through organisational workflows, technical feasibility, business value and platform rules. Based on this, the next section introduces Agile/Scrum literature to explain how innovation is organised into product development processes.

2.2.2 Scrum as An Innovative Paradigm of Agile

In recent years, both the research and practice of Agile have clearly moved beyond the field of software development. Bianchi, Marzi and Dabić point out that, since 2001, Agile has not only changed the way software is developed, but has also gradually entered broader innovation contexts, including hardware, services, organisational design, strategy, marketing, customer service, finance, and non-IT industries. They argue that this expansion is related to digitalisation, Industry 4.0, and platform-based business models, as these changes are blurring the boundaries between software, hardware, products, and services (Bianchi, Marzi and Dabić, 2022). However, the extension of Agile into non-software fields is not a simple process of direct transfer. The nature of outputs, resource conditions, priority of goals, performance requirements, process design, organisational culture, and leadership styles in different contexts all influence how Agile methods are applied in practice (Bianchi, Marzi and Dabić, 2022). This suggests that although the core values of Agile have cross-context potential, its specific practices must be adapted to new innovation environments.

Within the broader Agile family, as shown in Table 04, different frameworks respond in different ways to uncertainty, rapid change, and continuous value creation. Among them, Kanban places more emphasis on workflow visualisation and continuous delivery, XP focuses more on software engineering practices and technical quality, Lean stresses waste reduction and the optimisation of value streams, while Scrum translates Agile principles of

iteration, feedback, collaboration, and adaptation into an actionable team-based innovation mechanism through clearly defined roles, events, and artefacts (Agile Alliance, 2015; Schwaber and Sutherland, 2020). Therefore, this study chooses Scrum as its entry point not because it treats Scrum as the only representative of Agile, but because Scrum has a clear enough process structure while still retaining openness for adaptation and redesign. The Scrum Guide states that Scrum is a lightweight framework that helps people, teams, and organisations generate value through adaptive solutions to complex problems, and that it is “purposefully incomplete”. This allows Scrum to incorporate other methods and practices according to different contexts (Schwaber and Sutherland, 2020).

Agile framework	Primary focus	Core mechanism	Innovation value	Fit for this study
Scrum	Iterative teamwork and value delivery	Roles, Sprints, artefacts, reviews and retrospectives	Structures experimentation, feedback, learning and adaptation	clear, flexible and redesignable
Kanban	Workflow visualisation and flow control	Visual boards, WIP limits and flow metrics	Improves transparency, responsiveness and continuous improvement	useful for flow, weaker for co-creation
XP(Extreme Programming)	Software engineering quality	Pair programming, TDD, refactoring and continuous integration	Enables rapid technical feedback and quality improvement	too technical for service/social innovation
Lean Software Development	Waste reduction and value flow	Waste elimination, fast delivery and system optimisation	Supports efficiency, learning and customer value	useful conceptually, less operational
Crystal	Context-sensitive teamwork	Tailored methods based on team size and project risk	Emphasises people, communication and adaptability	relevant, but hard to redesign systematically
FDD(Feature-Driven Development)	Planning and delivering by features	Domain modelling, feature lists and feature-by-feature delivery	Breaks work into manageable value units	useful for product delivery
DSDM	Governance of Agile project delivery	Timeboxing, MoSCoW prioritisation and active user involvement	Supports prioritisation, governance and business alignment	useful for governance, less flexible than Scrum

Table 04. Comparison of selected Agile frameworks
Source: Author's own synthesis based on Agile framework literature

2.2.3 Scrum Process and Role

Scrum can be understood as an iterative and incremental framework for organising complex product development. Its intellectual roots can be traced to studies of flexible and overlapping product development processes, where cross-functional teams work collaboratively rather than following a strictly sequential model (Takeuchi and Nonaka, 1986). In software development, Scrum was later developed as a lightweight process for small teams working through repeated Sprints and continuous feedback (Rising and Janoff, 2000). The current Scrum framework is based on empiricism and Lean thinking: knowledge is generated through experience, while waste is reduced by focusing on what is essential (Schwaber and Sutherland, 2020).

The basic structure of Scrum consists of roles, events, and artefacts. As shown in Figure 06, the Scrum Team includes the Product Owner, Scrum Master, and Developers. The Product Owner is responsible for maximising product value and managing the Product Backlog; the Scrum Master supports the team and organisation in applying Scrum; and Developers are responsible for creating a usable Increment during each Sprint (Schwaber and Sutherland, 2020). From an innovation perspective, these roles can be understood as different mechanisms of value judgement, collaboration facilitation, and cross-functional problem-solving. Rubin (2012) also emphasises that Scrum roles are designed to support adaptive planning, team autonomy, and continuous delivery rather than top-down task control.



Figure 06: Three core roles in a Scrum team
Source: Scrum Alliance, "Scrum Roles Demystified," n.d.

As shown in Figure 07 and 08, Scrum events provide the rhythm through which work is planned, inspected, and adapted. The Sprint functions as the core cycle of Scrum, while Sprint Planning, Daily Scrum, Sprint Review, and Sprint Retrospective help the team define goals, coordinate progress, examine outcomes, and improve future collaboration (Schwaber and Sutherland, 2020; Rubin, 2012). In this sense, Scrum events form a learning cycle of planning, execution, feedback, and reflection. Scrum artefacts, including the Product Backlog, Sprint Backlog, and Increment, make goals, selected work, implementation plans, and completed outcomes visible to the team and stakeholders. They therefore support transparency and shared judgement in the innovation process.

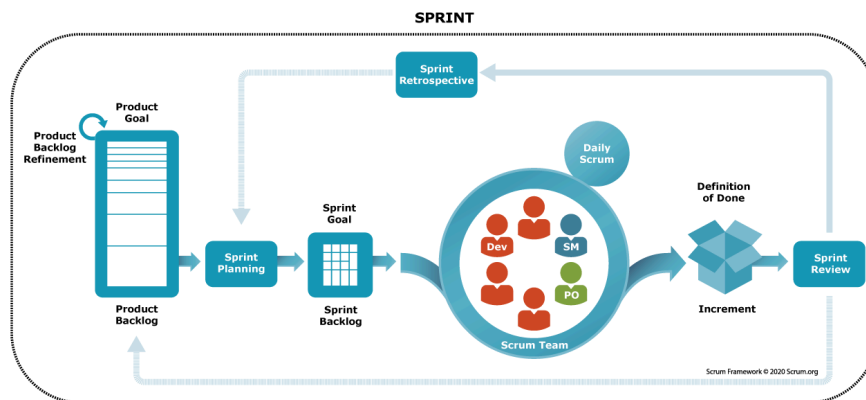


Figure 07. Scrum framework and sprint workflow
Source: Scrum.org (2020)

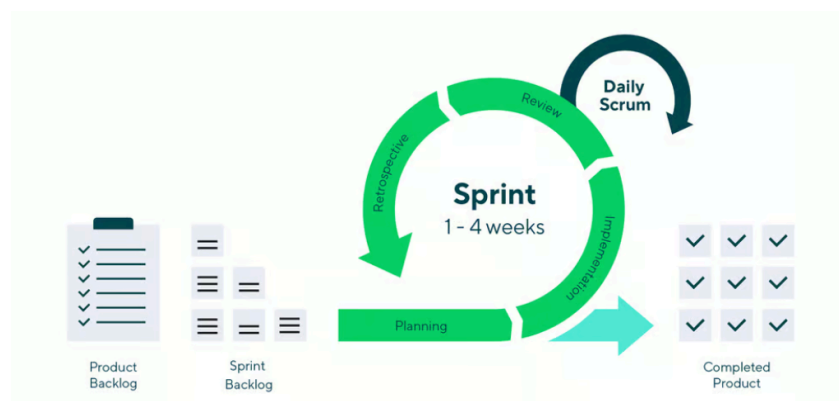


Figure 08. Scrum sprint cycle
Source: Wrike, "What is the Scrum methodology?" (n.d.)

However, Scrum should not be treated as a fixed process template. Empirical studies show that organisations often adapt Scrum roles, events, artefacts, estimation methods, and collaboration practices according to their own contexts (Diebold et al., 2017; Masood, Hoda

and Blincoe, 2021). This is important for this thesis because Chinese internet companies may not follow Scrum in a textbook form, but often develop Scrum-like workflows shaped by business priorities, organisational structures, and platform-based product development.

2.2.4 Integrating Design into Scrum: Dual-track Agile and UX CoP

Although Scrum provides product teams with a process structure for short-cycle iteration, cross-functional collaboration, and continuous feedback, existing research also shows that UX and design practices do not automatically or smoothly become integrated into Scrum. The Scrum Guide does not set designer or UX researcher as an independent role. This creates a problem of role ambiguity for design within Scrum. In existing Agile design practices, two representative mechanisms have emerged to address this issue: Dual-track Agile and UX Community of Practice (UX CoP).

Dual-track Agile is mainly used to address the rhythm conflict between design exploration and development delivery. Cagan distinguishes Dual-track Agile into a Discovery track and a Delivery track. The task of the Discovery track is to quickly generate validated product backlog items, while the task of the Delivery track is to produce releasable software (Cagan, 2012). Patton also emphasises that dual-track development should not be understood as two competing tracks. Instead, it allows product teams to carry out problem exploration and product delivery at the same time through the parallel work of discovery and delivery (Patton, 2017). Productboard's explanation of Dual-track Agile also points out that this method includes two tracks, discovery and delivery, and is used to reduce the tension between Agile development and UX design (Productboard, n.d.). Therefore, Dual-track Agile provides a mechanism for designers to become involved in Scrum earlier. It allows them to participate in problem definition and innovation opportunity identification before the backlog is formed, rather than only starting design after requirements have already been fixed.

In large organisations, designers may also face problems of scattered knowledge across teams and inconsistent user experience. In this context, a UX Community of Practice can serve as another complementary mechanism. The concept of Community of Practice first comes from Lave and Wenger's theory of situated learning, which describes how people form learning communities through participation in shared practice and social interaction (Lave and Wenger, 1991). Wenger later further developed this concept, understanding Communities of Practice as social learning structures formed around a shared domain of practice (Wenger, 1998). Wenger-Trayner and Wenger-Trayner define a CoP as a group of people who share a concern or passion for something and learn how to do it better through regular interaction (Wenger-Trayner and Wenger-Trayner, n.d.). In the context of UX and

Scrum, a UX CoP can be understood as a horizontal professional community formed among UX practitioners who are distributed across different Scrum Teams or product teams. It is used to share research methods, design standards, case experiences, design systems, and professional knowledge.

Dual-track Agile and UX CoP supplement the limitations of Scrum in supporting design involvement from two different levels: process timing and organisational structure. Dual-track Agile separates discovery and delivery, allowing designers to participate earlier in problem exploration, user research, and backlog formation. UX CoP, meanwhile, builds a cross-team professional community, enabling designers to share knowledge, maintain experience standards, and spread innovation practices. Together, these two mechanisms show that, for design to be effectively embedded in Scrum, it is not enough for designers simply to “attend the Sprint”. Organisations also need supporting mechanisms to secure the role of design in problem definition, value judgement, and cross-team learning. For this thesis, this section provides an important methodological foundation for the later analysis of how design teams play a mediating role within Scrum-like processes in Chinese internet companies.

2.2.5 Service Design Principles and Scrum

Service design is not concerned only with a single product function or interface. Instead, it focuses on how services are formed, experienced, and organised in real contexts. Stickdorn and Schneider summarise service design through five principles: user-centred, co-creative, sequencing, evidencing, and holistic. These principles suggest that service design should start from user experience, understand the service process through the participation of multiple actors, and design service journeys, touchpoints, and backstage systems as an integrated whole (Stickdorn and Schneider, 2012). This understanding allows service design to complement the limitations of both UCD and Scrum. UCD emphasises user needs and experience, but can easily remain focused on the relationship between individual users and product interfaces. Scrum emphasises team iteration and product increments, but can easily remain focused on internal processes and short-term delivery. By comparison, service design expands the object of design into a service system composed of users, employees, organisational processes, digital platforms, service touchpoints, and backstage systems.

At the level of principles, there is a clear theoretical alignment between service design and Scrum, although their main focuses are different. First, the iterative principle of service design is highly consistent with the empiricist logic of Scrum. Scrum is built on transparency, inspection, and adaptation, and it emphasises that teams reduce uncertainty through short-cycle inspection and adjustment (Schwaber and Sutherland, 2020). Similarly, the

Design Council regards “iterate, iterate, iterate” as an important principle of design innovation, arguing that repeated iteration helps identify mistakes earlier, reduce risk, and strengthen the credibility of solutions (Design Council, n.d.). Therefore, both service design and Scrum reject a linear model of innovation that is completed in a single stage. Instead, they understand innovation as a process that gradually takes shape through repeated experimentation, feedback, and adjustment. Service design continuously absorbs feedback through user research, prototype testing, service journey analysis, and co-creation activities, in order to understand whether a service truly responds to the needs of users and stakeholders. Scrum also builds feedback mechanisms through Sprint Review and Retrospective: Review is used to inspect the product Increment and adjust the following direction, while Retrospective is used for the team to reflect on processes, interactions, and quality (Schwaber and Sutherland, 2020). In both cases, feedback becomes part of the innovation process.

In terms of complementarity, service design supplements Scrum by offering a richer understanding of people within the overall process. First, service design emphasises putting people first, which means understanding problems from the perspective of the people who use the service, including their needs, strengths, and aspirations (Design Council, n.d.). Stickdorn and Schneider also regard user-centredness as a core principle of service design (Stickdorn and Schneider, 2012). This complements Scrum’s relatively limited understanding of the “user”. In Scrum, users mainly enter the process through the Product Owner, Product Backlog, and Sprint Review. This creates feedback points, but it does not provide a deeper method for understanding users’ contexts, needs, and lived experiences.

Second, service design also extends Scrum’s understanding of another type of people: stakeholders. Scrum emphasises stakeholder feedback, and allows stakeholders to inspect outcomes and influence future direction in the Sprint Review (Schwaber and Sutherland, 2020). However, the co-creative principle of service design places stronger emphasis on the active participation of multiple stakeholders in the design process, rather than treating them only as providers of feedback after an outcome has been produced. Stickdorn and Schneider argue that service design is co-creative because services are usually formed together by users, service providers, and other stakeholders (Stickdorn and Schneider, 2012).

Finally, service design further expands Scrum’s understanding of value. Scrum emphasises continuous value creation through the Increment, but this value is usually organised around product goals, requirement priorities, and deliverable outcomes (Schwaber and Sutherland, 2020). Service design, in contrast, understands value as experiential and relational value formed throughout the service process. Service-dominant logic further argues that value is

not produced and delivered by a company alone, but is co-created by multiple actors through service exchange, resource integration, and use contexts (Vargo and Lusch, 2004).

Wetter-Edman et al. also point out that design for service can support value co-creation by helping organisations understand existing service systems and propose new ones through human-centred and collaborative design methods (Wetter-Edman et al., 2014). Therefore, Scrum is strong in value delivery, while service design is stronger in value co-creation.

In summary, the relationship between service design and Scrum is not a simple combination, but a complementary one at the level of principles. Both service design and Scrum share a logic of iteration, feedback, and collaboration, but their scopes are different. Service design can expand the scope of iteration, as well as the object and value logic of innovation. It brings user contexts, service journeys, touchpoint relationships, stakeholder participation, and value co-creation into the innovation process. Therefore, service design provides the third theoretical foundation for understanding design-driven innovation in this thesis: it moves the product-iteration-centred innovation logic of Agile/Scrum towards an innovation logic centred on the co-creation of service value.

2.2.6 Design for Social Innovation: Reframing the Value of Design Team in Scrum

Social innovation differs from technological or commercial innovation because it focuses not only on new products or markets, but also on social needs, relationships, and systemic change. As shown in Figure 09, Murray, Caulier-Grice and Mulgan describe social innovation as a process that moves from prompts, proposals, prototyping, sustaining, scaling, to systemic change (Murray, Caulier-Grice and Mulgan, 2010). This social innovation spiral shows that innovation does not happen as a single solution or one-time intervention. Instead, it develops through repeated identification of problems, exploration of proposals, small-scale experimentation, gradual stabilisation, wider diffusion, and possible systemic transformation.

In design research, Manzini expands design for social innovation through the concepts of diffuse design and expert design, arguing that design is not only a professional activity, but also a distributed capability that supports collaboration among different social actors (Manzini, 2015). This perspective helps move design beyond user-centred problem solving towards system- and collaboration-centred change. For this thesis, it provides a basis for understanding how design teams can contribute to innovation not only through interface or experience improvement, but also through problem reframing, stakeholder coordination, and value negotiation.

This is especially relevant for rethinking the role of design teams in Scrum. While Scrum focuses on creating a valuable Increment in each Sprint (Schwaber and Sutherland, 2020), design for social innovation expands the meaning of value. As shown in Figure 09 and Table 04, the social innovation spiral can also be used to reinterpret Scrum as more than a delivery cycle: prompts correspond to problem identification, proposals to backlog formation, prototypes to Sprint experimentation, sustaining and scaling to release and organisational adoption, and systemic change to longer-term learning and workflow transformation.

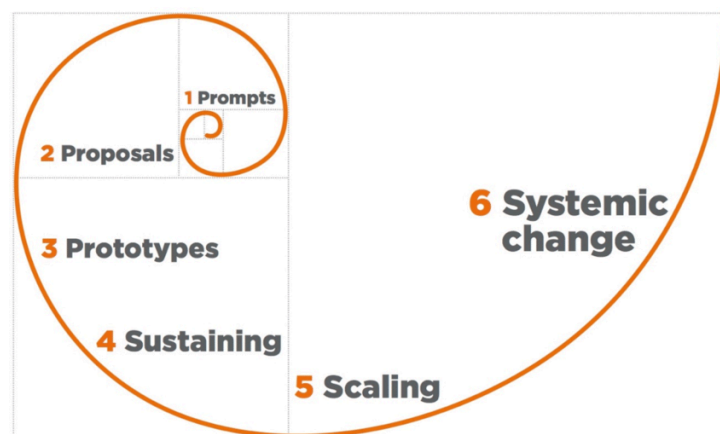


Figure 09. Social innovation spiral model
Source: Murray, Caulier-Grice, and Mulgan (2010)

Social innovation spiral stage	Meaning	Corresponding scrum process
Prompt	Social needs, unresolved problems, organisational tensions, or systemic issues are identified as the starting point for innovation	Product Goal
Proposals	Possible solutions, service ideas, intervention directions, or innovation opportunities are developed	Product Backlog / Sprint Planning
Prototypes	Ideas are tested through prototypes, pilots, or small-scale experiments to examine feasibility and potential value	Sprint
Sustaining	Promising ideas are refined and stabilised so they can be maintained within the organisation or service system	Sprint

Scaling	The innovation is extended to wider organisational, platform, or service contexts	Product Release / Cross-team Adoption / Organisational Rollout
Systemic change	The innovation contributes to deeper changes in organisational structures, governance mechanisms, service systems, or social relations	Retrospective / Organisational Learning / Workflow Adjustment

Table 05. Mapping the social innovation spiral to the Scrum process

Source: Author's own synthesis based on Murray, Caulier-Grice, and Mulgan (2010) and Schwaber and Sutherland (2020).

Therefore, design for social innovation provides a theoretical basis for rethinking the value of design teams within Scrum. This is especially important in China's internet industry, where innovation processes are jointly shaped by systemic workflows and broader institutional conditions. Through the methods of social innovation and service design, design teams can help transform Scrum from a product delivery process into a more system-oriented mechanism for innovation.

2.3 Synthesis and Identification of Research Gap

2.3.1 Synthesis of Literature and Theoretical Framework

Overall, these four groups of literature together form a progressive explanatory framework that moves from individual users, to team processes, to service systems, and finally to social value. This thesis understands them as complementary perspectives for explaining different levels of design-driven innovation.

Based on this integrated framework, this thesis can further respond to the three theoretical questions raised at the beginning of this chapter.

First, regarding how design participates in innovation by starting from user needs, the literature on UCD shows that design transforms vague user problems into product opportunities that can be discussed, validated, and iterated through early user research, task analysis, prototype testing, and user experience evaluation. Therefore, the value of design teams is not limited to visual or interface delivery. Rather, it lies in helping product teams identify real use contexts, understand user pain points, and translate experience insights into a basis for product decision-making. However, the limitation of UCD is that it mainly understands innovation through the relationship between individual users and product interfaces. It is less able to explain the innovation conditions in internet companies that are

jointly shaped by organisational processes, platform rules, business metrics, and regulatory environments.

Second, regarding how design is supported or constrained within Agile organisational processes, the literature on Agile/Scrum shows that Scrum provides institutional entry points for design to enter product development workflows. Sprints allow design solutions to be continuously iterated through short-cycle experiments. Sprint Review allows user and stakeholder feedback to enter product decision-making, while Retrospective provides a mechanism for teams to reflect on collaboration methods and improve processes. From this perspective, Scrum supports design as part of a continuous innovation process. However, Scrum's support for design is not unconditional. Because Scrum emphasises short-cycle delivery, inspectable increments, and backlog priority management, early-stage exploration, problem framing, service system understanding, and long-term value judgement in design may be compressed. Therefore, design teams in Scrum are often both empowered and constrained. They can participate in product iteration earlier and more frequently, but may also be limited by organisational workflows to an executional role that mainly supports development delivery.

Third, regarding how service design and social innovation can help internet companies move beyond short-term functional iteration, service design and design for social innovation provide a more systemic perspective. Service design expands the object of design from product interfaces to service journeys, touchpoint relationships, backstage processes, and collaboration among multiple stakeholders. This allows design to identify service system problems behind product functions. Design for social innovation further connects design with social value, organisational learning, and systemic change. As a result, innovation is no longer evaluated only through business value or individual value, but also through social value. In this way, design teams can take on a broader role within Scrum. They can participate not only in user experience optimisation, but also in problem reframing, stakeholder coordination, service system visualisation, and the identification of social impact.

2.3.2 Research Gap

However, clear gaps still exist between these bodies of literature. First, the literature on UCD and UX has fully discussed how user needs, experience, and usability influence product innovation. However, it pays less attention to how these user insights are selected, compressed, or transformed within the organisational workflows of internet companies. Second, the literature on Agile/Scrum explains how teams create product value through iteration and feedback, but gives insufficient attention to how design teams maintain

long-term experience value, service system value, and social value within Scrum. Third, the literature on service design emphasises value co-creation and stakeholder collaboration, but rarely analyses in detail how these principles can be embedded into highly rhythmic, task-based, and delivery-oriented Agile processes such as Scrum. In addition, the literature on design for social innovation highlights social value, collaboration, and systemic change, but its empirical contexts are more often public services, community innovation, and sustainable development. It pays limited attention to the innovation environment of Chinese internet companies.

Therefore, the core research gap identified in this thesis is that, although existing literature explains the relationship between design and innovation from different levels, there is still a lack of systematic research on how design teams promote innovation, coordinate multiple forms of value, and play a mediating role within Scrum-based product development in Chinese internet companies. More specifically, this research gap can be understood through three dimensions: theoretical, empirical, and methodological.

Theoretical gap: UCD, Agile/Scrum, service design, and design for social innovation respectively explain how user needs, team processes, service systems, and social value participate in innovation. However, there is still a lack of an integrated framework for explaining how design teams coordinate individual value, business value, and social value within specific organisational workflows.

Empirical gap: Existing studies mainly focus on Western contexts, public services, community innovation, or general Agile development practices. They pay insufficient attention to China's internet industry, which is highly platformised, metric-driven, and strongly shaped by organisational constraints. In particular, there is a lack of analysis of the practical situation of design teams within Scrum-based product development.

Methodological gap: Existing studies rarely start from the actual working experiences of design teams to examine how innovation ideas are generated, selected, negotiated, and implemented within Scrum workflows.

3. Methodology

3.1 Introduction

This chapter explains the research methods, data sources, and analytical logic of this thesis. This thesis adopts a qualitative research method, combining two research strategies: case

study and semi-structured interview. The case study is used to analyse how innovation ideas are proposed, selected, designed, and implemented within Scrum-based organisational workflows in specific contexts of product iteration or service innovation. The semi-structured interview is used to collect the practical experiences of practitioners in China's internet industry, in order to understand how they define innovation, how they participate in product iteration, and how design teams play a role within organisational processes.

This study does not aim to quantitatively measure the innovation performance of a particular company, it focuses on how innovation happens within organisations, and how design teams coordinate different forces under complex systemic constraints. Therefore, a qualitative research method is more suitable for this thesis, because it can reveal the complex relationships behind practitioners' experiences, organisational contexts, and process mechanisms.

3.2 Case Study Design

This thesis adopts case study as one of its important research methods. Case study is suitable for studying phenomena that have clear contextual boundaries, involve multiple relationships, and cannot be fully understood outside their actual organisational environment. For this thesis, the role of design teams in Scrum-based product development cannot be observed as an isolated issue separate from specific project workflows. It needs to be analysed within concrete processes of product iteration, team collaboration, and organisational decision-making.

Through the case study, this thesis aims to make the theoretical framework developed in the previous chapters more concrete. It observes how design-driven innovation operates within a real or observable internet product development process, and further analyses how design teams play a mediating role among individual value, business value, and social value.

3.2.1 Purpose of the Case Study

The main purpose of the case study in this research is to place the theoretical issues developed from the literature review and interviews into specific product iteration contexts. It helps clarify how innovation operates within concrete organisational workflows. More specifically, the case study has three purposes.

1. To make the concept of innovation more concrete by examining how innovation is presented in Chinese internet companies and what forms of value it involves.

2. To analyse the role of design teams within Scrum or Scrum-like workflows, including how they participate in problem definition, product iteration, experience evaluation, and value coordination.
3. To supplement and validate the interview findings by comparing practitioners' narratives with specific organisational or product cases.

3.2.2 Case Selection Criteria

Because internal project materials from Chinese internet companies are often sensitive, this thesis adopts a flexible but careful strategy in case selection. Cases may come from public materials, or from anonymised project experiences collected through interviews. Regardless of the source, the selected cases need to be highly relevant to the research questions of this thesis.

The case selection in this study follows the criteria below.

1. The case should take place within a Chinese internet company or a platform-based digital product context, so that it reflects the organisational and platform logic of China's internet industry.
2. The case should involve Scrum, Agile, or similar short-cycle product iteration processes, such as requirement pools, iteration planning, cross-functional collaboration, user feedback, and review mechanisms.
3. The case should include clear participation from design teams, such as user research, problem definition, prototyping, experience evaluation, service analysis, or cross-departmental communication.
4. The case should reflect tensions between different forms of value, including user needs, business goals, organisational constraints, platform governance, or social impact.

3.3 Interview Design

In addition to the case study, this thesis also adopts semi-structured interviews as a main method of data collection. Semi-structured interviews are suitable for this research because the study has clear theoretical concerns, such as the definition of innovation, Scrum processes, organisational structures, and the role of design teams. At the same time, this method also leaves enough space for participants to describe concrete practices, tensions, and cases based on their own working experiences.

This study plans to interview practitioners with experience in China's internet industry, including but not limited to UX/UI designers, product managers, project managers, Scrum Masters, and operation specialists. Participants should have experience in internet product development, Agile iteration, or cross-functional team collaboration. They should also be able to describe how design teams participate in actual projects.

The interviews will be organised around three core issues. First, how Chinese internet companies define innovation. This part focuses on how participants understand innovation, and whether innovation within the company refers to new functions, new experiences, new business models, or new organisational processes and value creation processes. Second, how product iteration is currently carried out in Chinese internet companies. This part focuses on how product ideas are generated, and how they are iterated, released, and reviewed through Scrum or Scrum-like processes. Third, how the organisational structure of Chinese internet companies influences the innovation role of design teams. This part focuses on the position of design teams within the organisation, and the specific points at which they can intervene to promote innovation on a broader scale.

3.3.1 Purpose of the Interview

The purpose of the semi-structured interviews is to understand how design teams participate in innovation within Scrum-based organisational workflows in Chinese internet companies. Compared with the case study, which focuses on specific project processes, the interviews focus more on practitioners' working experiences, organisational roles, and practical understandings of innovation.

More specifically, the interviews have four purposes:

1. To understand how practitioners define innovation in China's internet industry, including user experience improvement, functional iteration, business growth, organisational efficiency, and platform governance.
2. To clarify how product iteration is carried out in practice, including how ideas are proposed, prioritised, designed, developed, reviewed, launched, and adjusted within Scrum or Scrum-like workflows.
3. To examine how organisational structures influence the role of design teams, especially their relationships with product managers, developers, operations teams, management, and other stakeholders.
4. To explore how design teams mediate between user needs, business goals, technical feasibility, organisational constraints, and social value in actual product development.

Through these interviews, this study aims to collect empirical materials for analysing the role of design teams in organisational innovation processes.

3.3.2 Ethical Considerations

Because this study involves the working experiences, organisational workflows, and potentially sensitive internal projects of practitioners in Chinese internet companies, it will strictly follow research ethics throughout the process of data collection and analysis.

First, all participants will be informed of the research purpose, the use of data, the anonymisation process, and their right to withdraw before the interview begins. Participation will be based on voluntary consent. Participants will have the right to refuse to answer certain questions or withdraw from the interview at any stage.

Second, all interview data will be anonymised. Unless a participant gives explicit consent and the relevant information comes from public sources, this thesis will not disclose participants' names, specific company names, team names, project names, or any other information that may identify individuals. For cases based on internal working experiences, this thesis will use terms such as Company A, Company B, or "a Chinese internet platform company" for anonymised description.

Third, this thesis will not collect or disclose trade secrets, unpublished product strategies, internal data, or sensitive management information. If potentially commercially sensitive information appears in the interview, the researcher will generalise it during the transcription and analysis process. Only the organisational mechanisms and role relationships relevant to the research questions will be retained, while identifiable details will not be presented.

Fourth, interview data will be used only for the purposes of this study. Audio recordings, transcripts, and analytical notes will be stored securely and used only by the researcher for thesis analysis. After the thesis is completed, relevant materials will be stored or deleted according to the requirements of the university or research ethics guidelines.

Through these measures, this thesis aims to ensure research depth while protecting participants' privacy and avoiding potential risks to participants or their organisations.

3.4 Data Sources

The case study in this research will combine primary and secondary data in order to improve the richness of the materials and the reliability of the analysis.

The primary data will mainly come from semi-structured interviews. Participants may provide experiences related to product iterations, design projects, or organisational collaboration in which they have been involved. These materials can help this thesis understand the actual processes behind the cases, such as how innovation ideas are proposed, who decides priorities, when the design team becomes involved, how user feedback is used, and how the final solution is implemented or adjusted. If participants provide experiences from specific projects, the relevant information will be anonymised to avoid disclosing commercially sensitive content.

The secondary data will mainly include publicly available materials, such as company websites, product update records, public reports, platform rules, industry reports, public talks by company representatives, recruitment information, product interfaces, and observable user flows. These materials can be used to support the understanding of the industry background, product positioning, and platform governance environment of the selected cases. Public materials will be cited properly in the thesis. Internal information that cannot be publicly verified will only be used after anonymisation and generalisation.

3.5 Methodological Limitations

Although the combination of case study and semi-structured interviews can provide rich contextual materials, this research still has several limitations. First, the study adopts a qualitative approach with a limited sample size, so its findings cannot be directly generalised to all Chinese internet companies. Second, the interview data are based on participants' personal experiences and may be influenced by their roles, memories, and subjective interpretations. Third, because internal project materials from Chinese internet companies are often difficult to access, the analysis may be limited by the availability of public materials and anonymised interview data. Finally, different companies adopt Scrum to different degrees, and some teams may use hybrid or localised Agile workflows rather than standard Scrum. Therefore, the findings of this thesis should be understood as contextual explanations of how design teams participate in innovation within specific organisational settings, rather than as universal conclusions about all Scrum practices or all Chinese internet companies.

4. Finding and Analysis

4.1 Case Study Analysis

This section presents the finding analysis of the selected case, the analysis will focus on four aspects. First, it examines how “innovation” is defined and presented in the case: whether innovation is mainly reflected in user experience optimisation, business growth, technological experimentation, platform governance, or service system improvement. Second, it analyses how the product iteration process or Scrum-like workflow operates in the case, including how innovation ideas are proposed, selected, entered into the Backlog, designed and tested, and finally implemented or adjusted. Third, it discusses the specific role of the design team in this process, as well as how the design team participates at different stages of the workflow. Through this analysis, this thesis aims to reveal the concrete mechanisms through which design teams promote innovation within Scrum-based product development in Chinese internet companies.

4.1.1 Finding 1: The Multidimensional Definition of Innovation in Chinese Internet Companies

Overall, Chinese internet companies do not understand “innovation” only as technological breakthrough, product feature updates or interface improvement. Instead, innovation is framed around three forms of value: user value, business value and social value.

Based on the analysis of public materials, annual reports, design system documents and social responsibility reports from Chinese internet companies such as Alibaba, Baidu, Tencent, Meituan, Ant Design and Xiaohongshu RPDC, it can be seen that innovation in Chinese internet companies has a clear multi-value structure. First, user value refers to how innovation improves individual user experience, lowers barriers to use, builds trust, and supports users’ expression, consumption, creativity and everyday life. Cases such as Tencent CDC, Xiaohongshu RPDC, ByteDance, Ant Design and Meituan show that user research, experience design, content creation and everyday service improvement have become important ways for internet companies to understand innovation (Suzuki, 2022; Technode, 2023; Xiaohongshu RPDC, n.d.; ByteDance, n.d.; Ant Design, n.d.a; Ant Design, n.d.b; Meituan, n.d.).

Second, business value refers to how innovation supports business growth, platform ecosystem expansion, technological transformation and organisational efficiency. Alibaba’s “User First” and “AI-driven” strategy, Baidu’s shift from an “internet-centric” company to an

“AI-first business”, Meituan’s “retail + technology” strategy, and Ant Design’s support for design systems and production efficiency all show that Chinese internet companies understand innovation as a process that connects technology, business models, platform ecosystems and organisational capabilities (Alibaba Group, 2024; Baidu, 2025; Meituan, n.d.; ByteDance, n.d.; Ant Design, n.d.c).

Third, social value shows that the meaning of innovation is gradually moving beyond growth and efficiency toward platform responsibility, public value, digital inclusion, sustainability and long-term social impact. Tencent’s “Value for Users, Tech for Good”, Baidu’s practices in accessible and inclusive AI, Meituan’s emphasis on social responsibility, and Alibaba’s support for small businesses and inclusive commerce all show that internet companies are increasingly connecting innovation with social responsibility (Tencent, 2024; Tencent, n.d.a; Tencent, n.d.b; Baidu, 2024; Meituan, n.d.; Meituan, 2025; Alibaba Group, 2024).

Therefore, this study understands innovation in Chinese internet companies as a process of negotiating user value, business value and social value. Innovation is not driven by a single goal, but is continuously shaped through the balancing of user experience, business growth, platform capability and social responsibility.

4.1.2 Finding2: Design Teams Engage with Product Lifecycles through Scrum-like Workflows

Product innovation in Chinese internet companies is usually not completed through a linear process led by a single department. Instead, it is developed through Scrum-like workflows involving product managers, designers, developers, testers, operations, and data roles. Although these workflows may not fully follow the standard Scrum framework, they often share similar features, such as requirement management, short-cycle iteration, cross-functional collaboration, staged feedback, and continuous adjustment.

In this process, product ideas usually move through three main stages. The first stage is requirement formation, where ideas are collected from user feedback, business goals, data indicators, platform rules, or strategic directions, and then prioritised according to user value, business value, technical feasibility, and available resources. The second stage is development iteration, where selected requirements are translated into tasks, prototypes, technical solutions, tests, and launch plans. The third stage is review and reflection, where teams use user feedback, A/B testing, data metrics, launch results, or review meetings to evaluate outcomes and adjust future directions.

This finding shows that designers' role in Chinese internet companies is not limited to a separate design stage. Instead, designers participate in the product lifecycle through Scrum-like workflows. They contribute to requirement definition, solution development, and post-launch adjustment. Therefore, the value of design teams is not only interface or prototype delivery, but also the continuous connection of user value, business value, and social value throughout product innovation.

4.1.3 Finding3: The Role of Designers in Scrum-like Workflows

In Scrum-like workflows, designers are not defined as an official Scrum role, but they often participate as part of cross-functional product development. Their work may include user research, interaction design, interface design, prototyping, usability evaluation, content design, service design, and design system support. Therefore, the designer should be understood as a composite role rather than a single job title.

In Chinese internet companies, designers are often organised through professional design teams or design centres, rather than being fully embedded in one Scrum Team. These teams may include UX designers, UI designers, product designers, user researchers, visual designers, or design system specialists. They support different product teams through project-based collaboration, business support, or shared design resources. Examples such as Tencent CDC and Xiaohongshu RPDC show that design teams can provide user research, product design, experience design, and visual design support across multiple products or business units (Suzuki, 2022; TechNode, 2023; Xiaohongshu RPDC, n.d.).

This finding suggests that designers in Chinese internet companies do participate in Scrum-like workflows, but their participation is often horizontal and project-based. They are not always stable core members of a single Scrum Team. As a result, their influence on innovation depends on when and how they enter the workflow, whether they can participate in early problem definition, and whether their insights can shape product decisions beyond interface delivery.

4.2 Interview Analysis

4.2.1 The Limitations of Designers in the Innovation Process

This category mainly explains that, although Scrum-like workflows in Chinese internet companies emphasise rapid iteration and cross-functional collaboration, they are often

limited in practice by requirement governance, resource allocation, and the way the process is executed.

Finding 1: Unstable requirements weaken the innovation continuity of Scrum workflows

The interviews show that designers often face problems such as unclear requirements, frequent changes in direction, and difficulties in organising user stories. In theory, Scrum manages requirement priorities through the Backlog and Sprint Planning. However, in actual projects, requirements may come from business teams, senior management, operations, data indicators, or temporary strategic changes. As a result, requirements can become fragmented and unpredictable, with teams constantly shifting from one idea to another. This makes it difficult for designers to carry out systematic experience exploration based on a stable problem definition. It also weakens the continuity of innovation from user insight to product solution. In this situation, design work may be forced to respond to changing demands, rather than developing from a clear and shared understanding of user problems.

Finding 2: Rapid trial-and-error creates innovation opportunities, but also produces design uncertainty

The interviews also show that Scrum-like workflows are often used for rapid trial-and-error and fast validation. This can help teams test possible solutions quickly when the direction is still unclear. In this sense, rapid iteration provides an experimental mechanism for innovation.

However, it also keeps design work in a state of uncertainty for a long time. Designers need to constantly respond to new assumptions, functional experiments, and business adjustments. As a result, user research, concept exploration, and holistic experience planning are often compressed. Therefore, rapid iteration not only creates opportunities for innovation, but may also reduce the role of designers to short-term solution repair.

Finding 3: Scrum-like workflows may become waterfall-style delivery in practice

The interviews further show that some teams formally adopt Agile or Scrum-like workflows, but still operate in a stage-based delivery mode in practice. For example, designers may have already completed the front-end design iteration, while engineers have not yet started development. In other cases, design, development, and testing are still handed over in sequence, rather than being carried out through continuous collaboration. This form of “pseudo-Agile” makes it difficult for design teams to truly enter a shared iterative process. It also weakens the feedback, collaboration, and continuous learning that Scrum originally emphasises. As a result, Scrum-like workflows may become a faster version of waterfall delivery, rather than a real mechanism for collaborative innovation.

4.2.2 The Role Boundaries of Designers in Scrum

Designers in Scrum-like workflows are not always positioned as stable core innovators. Rather, they often act as boundary roles who continuously coordinate among user experience, technical implementation, business goals, and organisational resources.

Finding 4: Technical constraints place designers in a passive negotiation position in experience innovation

The interviews show that interaction solutions or interface layouts proposed by designers are often adjusted after entering the development stage because of technical constraints, development costs, or scheduling pressure. Since some UX designers do not have sufficient technical knowledge, they may be placed in a relatively passive position when working with developers. In these situations, designers often need to search for alternative solutions, or even compromise on user experience. This suggests that the innovation role of designers is not simply about proposing an ideal experience. Instead, it involves continuous negotiation between experience value and technical feasibility.

Finding 5: Shared UX resources lead to fragmented design participation

The interviews show that it is quite common for one UX designer to support several Scrum-like teams at the same time. This shared-resource model can improve the efficiency of design resource allocation, but it can also weaken designers' deep involvement in any single team. Designers may find it difficult to fully participate in each team's grooming, Sprint Planning, Daily Scrum, Review, or retrospective activities. As a result, distance between designers and teams may increase, communication may be delayed, and trust relationships may become harder to build.

Therefore, although designers may formally participate in multiple projects, their actual influence on innovation may become dispersed.

Finding 6: Designers are often marginalised in early Scrum stages

The interviews show that designers often do not have their own Sprint rhythm, and can easily become marginal participants in Scrum workflows, especially during grooming or backlog refinement. In many cases, requirements have already been initially defined by product managers or business teams before designers enter the process. Designers are then mainly responsible for translating fixed requirements into interface solutions, rather than participating in early-stage problem definition and requirement selection. This limits the ability of design teams to transform user insights into innovation opportunities. It also weakens their space to play a mediating role among individual value, business value, and social value.

4.3 Synthesis of Findings

Overall, the findings above show that innovation in Chinese internet companies is not a single technological breakthrough, functional update, or interface optimisation. Rather, it is a multidimensional process of continuous balancing among individual value, business value, and social value. Scrum-like workflows provide an organisational basis for this type of innovation. They allow innovation ideas to enter the requirement pool from user feedback, data indicators, business goals, technological opportunities, and platform governance needs. These ideas are then continuously adjusted through short-cycle iteration, cross-functional collaboration, testing and release, and feedback review.

However, in the actual context of China's internet industry, although designers are expected to promote user experience and product innovation in this process, they are often constrained in Scrum-like workflows by unstable requirements, insufficient early-stage involvement, shared design resources, technical limitations, and pseudo-Agile delivery. As a result, their role is often compressed from innovation participant to requirement executor, or to an innovation coordinator constrained by the system.

As shown in Table 06, the difficulties faced by designers in Scrum-like workflows in Chinese internet companies are not simply caused by individual professional capability. Instead, they are closely related to the organisational arrangements at different stages of the Scrum process. The most critical limitations appear at both the front end and the back end of the workflow. At the front end, if designers cannot participate in backlog refinement and Sprint Planning, it becomes difficult for them to engage in problem definition, requirement selection, and innovation opportunity identification. At the back end, if Sprint Review and Retrospective mainly focus on delivery efficiency and business metrics, designers also find it difficult to translate user experience, service quality, and social value into the basis for the next iteration.

At the same time, during Sprint Execution, rapid trial-and-error, technical constraints, and shared design resources further weaken designers' continuous participation. Their innovation role is therefore reduced to local optimisation of already-defined requirements. Therefore, whether designers can truly promote innovation depends on whether they can be more deeply embedded in the key points of the Scrum process, rather than only providing interface solutions before development.

Designer's challenges in Scrum workflows	Corresponding Scrum stage	Impact on innovation
Unstable and frequently changing requirements make user stories difficult to define clearly.	Product Backlog / Product Backlog Refinement	Weakens the continuity of problem definition and limits systematic innovation based on user insights.
Designers are often involved only after requirements have already been defined.	Product Backlog Refinement / Sprint Planning	Limits designers' influence on innovation direction and reduces their role to translating fixed requirements into interface solutions.
Rapid experimentation compresses time for user research, concept exploration, and holistic experience planning.	Sprint Planning / Sprint Execution	Turns innovation into short-term feature validation or local experience fixes.
A single UX designer often supports multiple teams, leading to fragmented participation.	Daily Scrum / Sprint Execution / Sprint Review	Reduces deep team embedding, delays communication, and disperses design influence.
Technical constraints, development costs, and schedule pressure force design solutions to be repeatedly adjusted.	Sprint Execution / Development / Testing	Places designers in a passive negotiation position, where user experience may be compromised for technical feasibility.
Teams claim to use agile methods but still follow a sequential handoff from design to development to testing.	Sprint Execution / Sprint Review / Retrospective	Turns Scrum-like work into waterfall-style delivery, weakening cross-functional collaboration and continuous learning.
Retrospectives focus more on delivery speed, business metrics, or feature completion than on user experience and social value.	Sprint Review / Retrospective	Prevents innovation from developing beyond single iterations into long-term service improvement or systemic change.

Table 06. Designers' Challenges Across Scrum-like Workflow Stages and Their Impact on Innovation
Source: Author

4.4 Design Opportunities

This study argues that the key design focus is: how can design teams be supported to use service design thinking to participate in Scrum-based product development workflows earlier, more continuously, and more influentially?

This is especially important in two stages: first, the early formation of user stories, where user problems, value assumptions, and innovation opportunities are defined; and second, the later stages of iteration review and retrospective reflection, where teams evaluate not only delivery efficiency, but also user experience, service value, and social impact.

In this sense, the design challenge is not simply how to help designers produce better interface solutions. Rather, it is how to create methods, tools, and organisational touchpoints that allow user insights, experience judgement, and social value to be embedded throughout the whole product innovation cycle.

4.5 Conclusion

In summary, through case analysis and interview research, this chapter finds that designers in Scrum-like product development workflows are not only executors of user experience. Rather, they act as innovation mediators who connect user needs, business goals, technical conditions, and social value. Based on this understanding, the following design practice will further explore how designers can enter Scrum workflows at different points, and how they can create value in requirement definition, iteration planning, solution experimentation, launch evaluation, and retrospective feedback.

At the same time, this thesis will also examine how designers can use their professional knowledge in user research, experience design, service design, systems thinking, and collaborative design to optimise the Scrum-like workflow itself. In other words, the role of designers needs to move beyond that of a user-centred designer of local experiences. It should further develop into a practitioner role that can identify problems, coordinate multiple forms of value, and promote innovation under complex systemic constraints.

5. Design Output

5.1 Design Aim

Based on the previous literature review, case analysis, and interview findings, this study argues that although designers in Chinese internet companies are expected to contribute to user experience improvement and product innovation, their participation in actual product development processes is often concentrated in interface design and requirement execution. As a result, designers find it difficult to continuously influence requirement definition, value judgement, and the formation of innovation directions. At the same time, the professional value of design teams may be reduced, under organisational constraints, to localised experience optimisation, rather than fully playing their role as innovation intermediaries who connect user needs, business goals, and social value.

Therefore, the design objective of this study is not to optimise a single working stage, but to reconsider the position and role of design teams in Scrum-based innovation processes at the

organisational level. It aims to explore how design teams can create broader innovation value within complex organisational environments.

Specifically, the design objectives of this study include three levels:

1. Enhancing Design Participation and Influence in Scrum Workflows:

This study aims to help design teams move beyond a mainly execution-oriented role and participate earlier and more continuously in Scrum-like workflows, so that they can better influence requirement definition and innovation direction.

2. Improving adaptability to fast iteration:

This study explores how design teams can better adapt to fast-paced agile environments through collective collaboration, rather than relying only on individual designers' abilities, while maintaining their capacity for continuous innovation.

3. Expanding the Scope of Value Creation:

This study uses the design team as an entry point to expand innovation value beyond user experience. It explores how design can connect user needs, business goals, and wider social value through organisational collaboration, supporting more sustainable and responsible innovation practices.

5.2 Dual-track Scrum Model

Based on the previous research findings, designers in Scrum-like product development processes are often limited to requirement execution and interface delivery, making it difficult for them to participate continuously in requirement definition, value judgement, and the formation of innovation directions. In response to this problem, this study proposes the Dual-Track Scrum Model as the core design outcome.

The model does not aim to increase the complexity of Scrum or replace existing Scrum practices. Instead, it builds on the original agile development process and provides design teams with a more flexible and continuous participation mechanism, allowing them to engage more effectively in product innovation.

As shown in Figure 10, the model consists of two parallel tracks. The first is the Sprint Delivery Track, which follows the conventional Scrum logic and focuses on requirement development, testing, launch, and delivery. This track ensures the smooth progress of product iteration and business goals. The second is the Design Exploration Track, led by the design team and supported through collaboration with different cross-functional members.

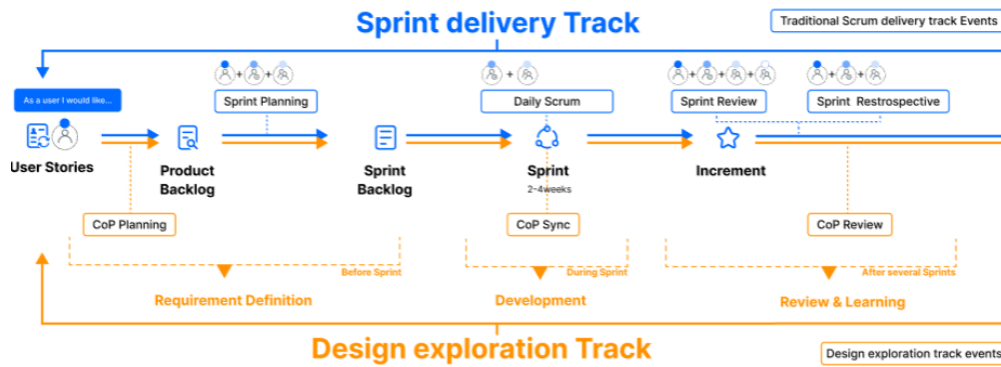


Figure 10. Dual-track Scrum model

Source: Author

Within this model, designers are no longer positioned merely as design executors. Instead, they act as copilots in the innovation process, helping to connect different forms of value. On the one hand, designers identify new innovation opportunities through exploratory activities. On the other hand, they continuously feed these insights back into the product development process, supporting the parallel development of product iteration and organisational learning.

5.2.1 Design Exploration Track

The Design Exploration Track is a core component of the Dual-Track Scrum Model. It aims to create a continuous space for exploration and reflection for design teams, in order to respond to uncertainty, complexity, and potential innovation opportunities in product development.

This track is led by the design team, but it does not operate as an isolated design department activity. Instead, it encourages the participation of product managers, developers, operations staff, and other relevant stakeholders. Its main purpose is to explore user value, business value, and social value through research, discussion, experimentation, and reflection, thereby identifying new directions for innovation.

Unlike traditional Scrum practices, which often emphasise clear planning and defined delivery outcomes, the Design Exploration Track is more open and adaptive. It allows teams to carry out exploratory practices in response to emerging technologies, market changes, and organisational challenges. For example, in the context of the rapid development of artificial intelligence, this track can support collective discussion on how AI tools influence product development processes, design practices, and user experience, while also helping teams explore new forms of Scrum collaboration and innovation.

Therefore, the Design Exploration Track functions not only as a mechanism for identifying innovation opportunities, but also as a mechanism for organisational learning. It helps teams

retain the capacity to explore future possibilities alongside continuous delivery. In this way, design teams can continue to create value in fast-changing environments and support the extension of innovation from the product level to the organisational and social levels.

5.2.2 Scrum CoP Team

In addition to establishing the Design Exploration Track, this study further introduces the Scrum CoP Team, or Community of Practice Team, as another important component of the Dual-Track Scrum Model.

A Community of Practice (CoP) refers to a group of people who share a common concern, practical experience, or professional interest in a specific field, and who improve their practice through continuous communication and shared learning (Wenger-Trayner and Wenger-Trayner, n.d.). In the field of design, CoPs have been widely adopted in organisational contexts and often appear in forms such as UX Communities, Design Chapters, or Design Guilds. These communities support knowledge sharing, professional development, and cross-team collaboration.

This study introduces the CoP into the Dual-Track Scrum Model as a horizontal collaboration mechanism that connects multiple Scrum Teams. As shown in Table 07, while traditional Scrum Teams focus on specific product delivery, the Scrum CoP Team pays more attention to the development and improvement of design practice itself. It provides designers with a cross-project and cross-team platform where they can discuss design methods, user research findings, innovation opportunities, and the challenges brought by emerging technologies. Through this process, shared knowledge and collective experience can be gradually developed.

Dimension	Scrum Team	Scrum CoP Team
Main focus	Sprint goal and delivery	Learning, practice improvement
Scope	Usually serves one product or project	Can work across products, projects and teams
Key concern	Completing backlog items	Improving collaboration and value reflection
Time horizon	Short-term Sprint cycle	Long-term learning and capability
Main output	Product increment	Shared knowledge, methods, templated and principles

Table 07. Comparison between the Scrum Team and the Scrum CoP Team

Source: Author

Within this model, the Scrum CoP Team does not change the original role structure or event structure of Scrum. Instead, it functions as a complementary organisational mechanism. Designers can bring experiences, problems, and insights from different projects into the CoP for discussion. The shared understandings, methods, and practical suggestions generated through these discussions can then be fed back into Scrum Events such as Sprint Planning, Review, and Retrospective. Through this two-way cycle, organisational learning can continuously inform project practice, while project-based experiences also contribute to the development of the organisation's knowledge base.

5.2.3 Service Design-oriented Value Expansion

The previous two sections expanded the participation scope and organisational influence of design teams in Scrum-like workflows through the Design Exploration Track and the Scrum CoP Team. However, simply increasing opportunities for designers to participate is not sufficient to generate broader innovation value. Design teams also need a way of thinking and a set of practices that can move beyond product boundaries and help organisations identify deeper innovation opportunities. Therefore, this study further introduces a service design perspective, shifting the innovation logic of Scrum from product-centred delivery towards value co-creation.

The introduction of service design means that the design object is no longer limited to a single product, but is understood as a service system shaped by multiple stakeholders. As shown in Figure 11, service design expands the focus of design from the product itself to a wider value network. This enables design teams to identify the more complex relationships, stakeholder needs, and potential social impacts behind product development. Through this shift in perspective, innovation is no longer restricted to functional optimisation, but can further explore possibilities for organisational innovation, ecosystem collaboration, and social value creation.

Service Design

- Core focus of Scrum
- Extension by Service Design
- Impact on innovation and value

Scrum focuses on
product iteration,
incremental delivery

↓

Service Design adds
User context,
stakeholder participation,
value co-creation

↓

**Therefore, innovation
expands towards**
user, business, social value,
organisational learning and
systemic change

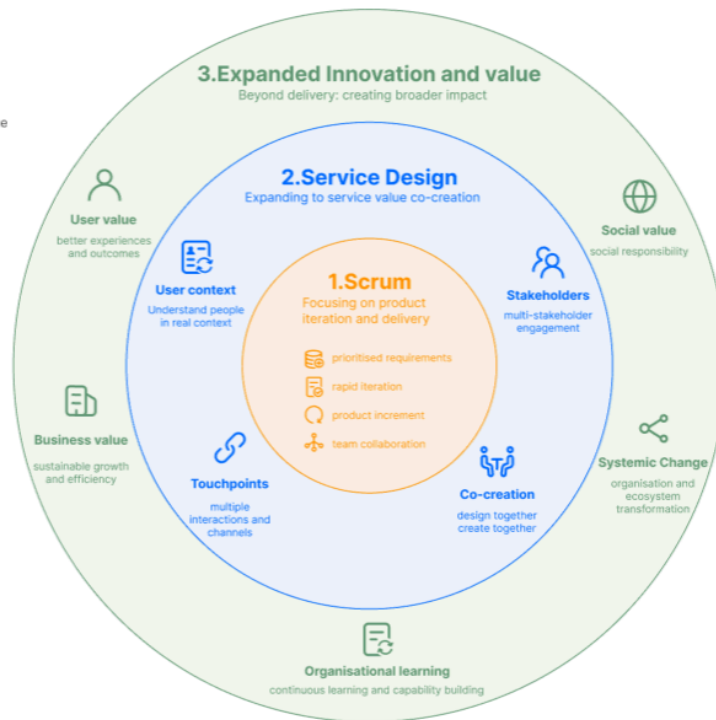


Figure 11. Service Design as an Extension of Scrum-Based Innovation

Source: Author

At the same time, service design also provides the Scrum CoP Team with a scalable set of practical tools. These tools help the team move beyond the limits of a single Sprint or product and understand value flows and innovation opportunities from a more systemic perspective. Therefore, in the Dual-Track Scrum Model, service design does not operate as a separate process. Instead, it serves as an important methodological support for the Scrum CoP Team in leading innovation exploration. By introducing service design perspectives and tools, design teams can participate more effectively in value discussions and innovation decisions within Scrum processes. In this way, their focus can gradually expand from user value to business value, organisational value, and social value, supporting a shift from product innovation to value innovation.

5.2.4 Scrum CoP Events through the Social Innovation Spiral Model

To enable the Scrum CoP Team to participate continuously in Scrum-like innovation processes, this study further designs three CoP Events as its operating mechanism: CoP Planning, CoP Sync, and CoP Review. Unlike traditional Scrum Events, which mainly focus on product development and delivery, CoP Events place greater emphasis on value exploration, organisational learning, and the identification of innovation opportunities. Their

purpose is to create a continuous space for design teams to engage in innovation discussions without changing the basic structure of Scrum.

At the same time, this study introduces the Social Innovation Spiral as a framework for value exploration, in order to help CoP discussions move beyond product optimisation. Murray, Caulier-Grice and Mulgan (2010) describe social innovation as a dynamic process that develops from problem identification to systemic change. This process includes six stages: Prompts, Proposals, Prototypes, Sustaining, Scaling, and Systemic Change.

In Scrum-like practices within internet companies, however, the full six-stage model is difficult to directly embed into short-cycle iterations. Therefore, as shown in Figure 12, this study reorganises the Social Innovation Spiral into three value exploration stages that correspond to the Scrum cycle, allowing it to be more closely integrated with product development.

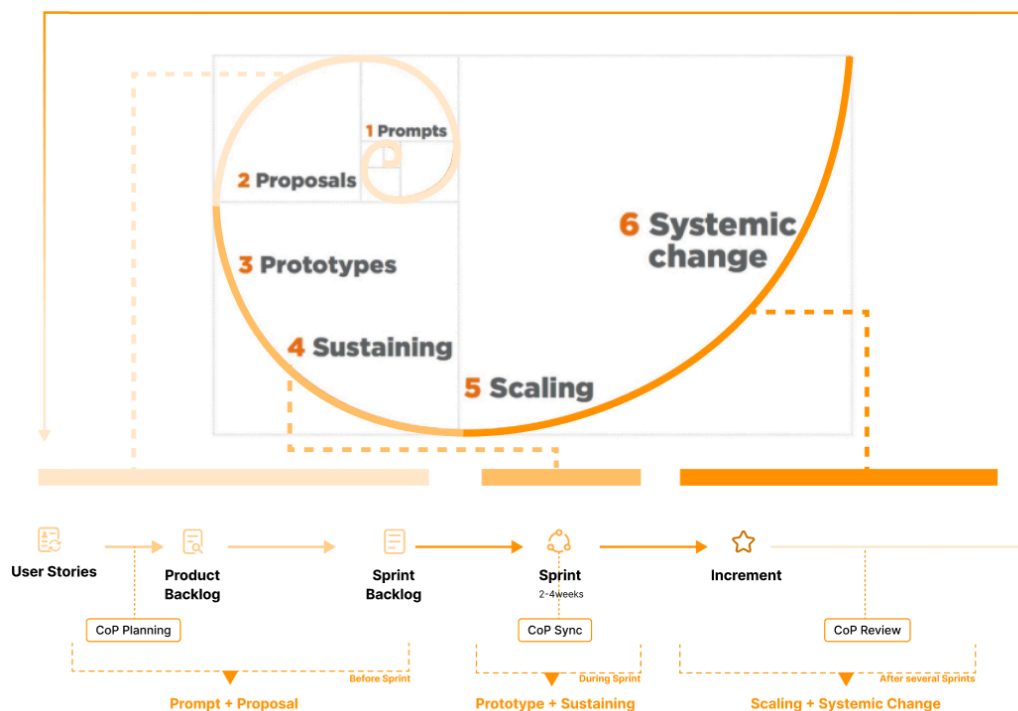


Figure 12. Social innovation spiral model and Scrum process

Source: Author

1. Requirement Definition — Before Sprint

This stage corresponds to the Prompts and Proposals stages of the Social Innovation Spiral. CoP Planning serves as the main activity at this point. It encourages design teams to collectively discuss user feedback, market changes, organisational challenges, and the

potential impact of emerging technologies. Through these discussions, the team identifies key problems, potential innovation opportunities, and initial directions for exploration.

The main value focus of this stage is user value. Design research helps the team analyse user needs and potential pain points behind user stories. However, business goals and social impacts may also be discussed and negotiated at the same time.

2. Development — During Sprint

This stage corresponds to the Prototypes and Sustaining stages of the Social Innovation Spiral. CoP Sync functions as a continuous communication mechanism during the sprint. Designers, product managers, developers, and other relevant members regularly share experiment results, design proposals, user feedback, and implementation challenges. This allows innovation ideas to be quickly tested, adjusted, and refined.

The main value focus of this stage is business value. The team examines how innovation proposals can be aligned with business goals, product strategy, and organisational resources, while continuously improving the implementation path through feedback. At the same time, user value remains an important basis for judgement, and potential social impacts can also be raised for discussion.

3. Review and Learning — After Sprint

This stage corresponds to the Scaling and Systemic Change stages of the Social Innovation Spiral. It mainly takes place after a sprint, or during the review of outcomes across multiple sprints. CoP Review supports cross-team reflection and value evaluation. The team not only assesses business performance and user feedback after launch, but also discusses whether the innovation outcomes can be extended to other teams, business scenarios, or organisational practices, while identifying their longer-term impact.

The main value focus of this stage is social value. The team begins to examine innovation outcomes from a broader service ecosystem and social system perspective, including their influence on user wellbeing, platform ecosystems, organisational culture, and social sustainability.

It should be emphasised that although the three stages have different value focuses, value creation is not a linear process. User value, business value, and social value are not strictly confined to separate stages. Instead, they appear throughout the innovation process, influence one another, and are continuously negotiated. The distinction between the stages lies in the shift of discussion focus, rather than in an absolute separation of value types.

By combining the Social Innovation Spiral with Scrum CoP Events, this study proposes a strategic framework for long-term value creation in Scrum-like product development. This framework allows teams to maintain the fast feedback and continuous collaboration emphasised by agile development, while also moving beyond the limits of product delivery. In this way, innovation can gradually extend from the user level to the organisational and social levels.

5.3 Co-design Workshop

This study adopts a Co-design Workshop as a method of participatory evaluation, inviting designers with experience in Scrum or Agile projects to take part in the assessment and refinement of the proposed model.

Unlike conventional usability testing, this Co-design Workshop examines the Dual-Track Scrum Model through participants' real project experience and collaborative creation activities. The aim is to evaluate whether the model can help designers participate earlier, more continuously, and with greater influence in Scrum processes. It also explores the model's potential role in extending innovation value across user value, business value, and social value.

The overall design of the workshop is structured around two core dimensions proposed in this study:

1. Horizontal Expansion: Capability Expansion

This dimension evaluates whether the Design Exploration Track and the Scrum CoP Team can enhance the participation and organisational influence of design teams in Scrum-like workflows.

2. Vertical Expansion: Value Expansion

This dimension evaluates whether service design and the Social Innovation Spiral can help teams move beyond product-oriented thinking and further understand and create user value, business value, and social value.

5.3.1 Co-design Objective and Preparation

The objective of this Co-design Workshop was to validate and refine the Dual-Track Scrum Model through participants' real Scrum/Agile project experience and a concrete design scenario.

To help participants understand the model more easily and engage in discussion, the workshop used a shared design scenario as the basis for collaborative activities:

A food delivery platform is planning to launch an AI-powered personalised recommendation feature to increase repeat orders. The business team believes that more personalised food and restaurant recommendations can help users make faster decisions and encourage them to order more frequently.

This scenario was selected for two main reasons. First, AI recommendation systems are a common innovation topic in contemporary internet companies and are closely related to participants' professional backgrounds. Second, the scenario involves multiple dimensions, including user experience, business growth, data use, and potential social impact. It therefore provides a suitable context for exploring the multi-dimensional value creation addressed in this study.

In terms of workshop material preparation, the workshop was structured into five phases.

Phase 1: Context Setting and Scrum Alignment

The first phase provided a brief review of the Scrum process in order to establish a shared understanding of its workflow, roles, and basic structure. Since participants came from different project backgrounds, their understanding and practice of Scrum/Agile might vary. This phase therefore helped create a common discussion context for the following activities.

Phase 2: Scrum Value Reflection

After building a shared understanding, participants were invited to revisit the Scrum process from the perspective of innovation and value creation. As shown in Figure 13, this study simplified the Scrum process into three main stages: requirement definition before the sprint, development and collaboration during the sprint, and review and learning after the sprint. Guiding questions were provided for each stage to encourage participants to reflect on the innovation potential of Scrum. This phase helped participants move beyond a product delivery perspective and reinterpret Scrum practices through the lens of innovation and value creation.

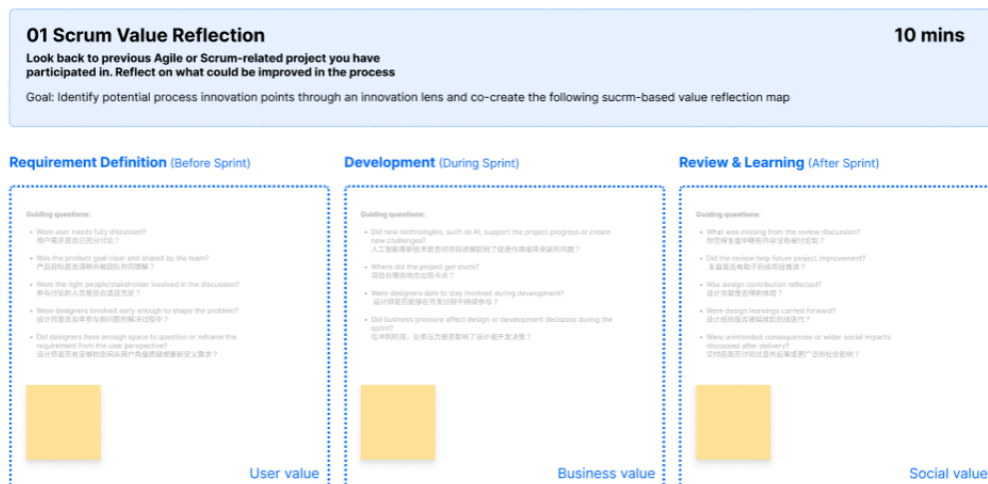


Figure 13. Co-design material: Scrum value reflection board
Source: Author

Phase 3: Dual-Track Model Walkthrough and Scenario Ecosystem Mapping

In this phase, participants were introduced to the overall structure of the Dual-Track Scrum Model, participants then worked with the predefined design scenario and used an Ecosystem Map as a service design tool to analyse the stakeholders, value flows, and potential impacts involved in the AI recommendation feature, as shown in Figure 14.

Through this activity, participants could more directly understand how design teams may use the Design Exploration Track to move beyond traditional product function discussions and engage with a wider service system and value network. This phase mainly aimed to evaluate the model in terms of capability expansion, examining whether the proposed collaborative mechanism could help design teams participate earlier and more continuously in the innovation process.

Design Scenario

A food delivery platform is planning to launch an AI-powered personalised recommendation feature to increase repeat orders. The business team believes that more personalised food and restaurant recommendations can help users make faster decisions and encourage them to order more frequently.

Please co-create an ecosystem map for the AI recommendation feature from a Design CoP perspective. Focus on identifying the key actors, their relationships, and where the Design CoP could connect people, information and value within the system.



Figure 14. Co-design material: Ecosystem mapping board
Source: Author

Phase 4: Scrum CoP Meeting Simulation

After understanding the model structure, participants simulated three Scrum CoP Events: CoP Planning, CoP Sync, and CoP Review. During the activity, they discussed the key focus of each meeting, the inputs that designers should bring, and the outputs that the team should produce.

As shown in Figure 15, the Social Innovation Spiral was embedded in this activity as a value exploration framework. It guided participants to consider how designers could support problem identification, proposal development, prototype validation, and value expansion at different stages of the Scrum cycle.

As shown in Figure 16, by simulating CoP collaboration in a realistic project context, participants were able to experience how the Dual-Track Model might operate in practice.

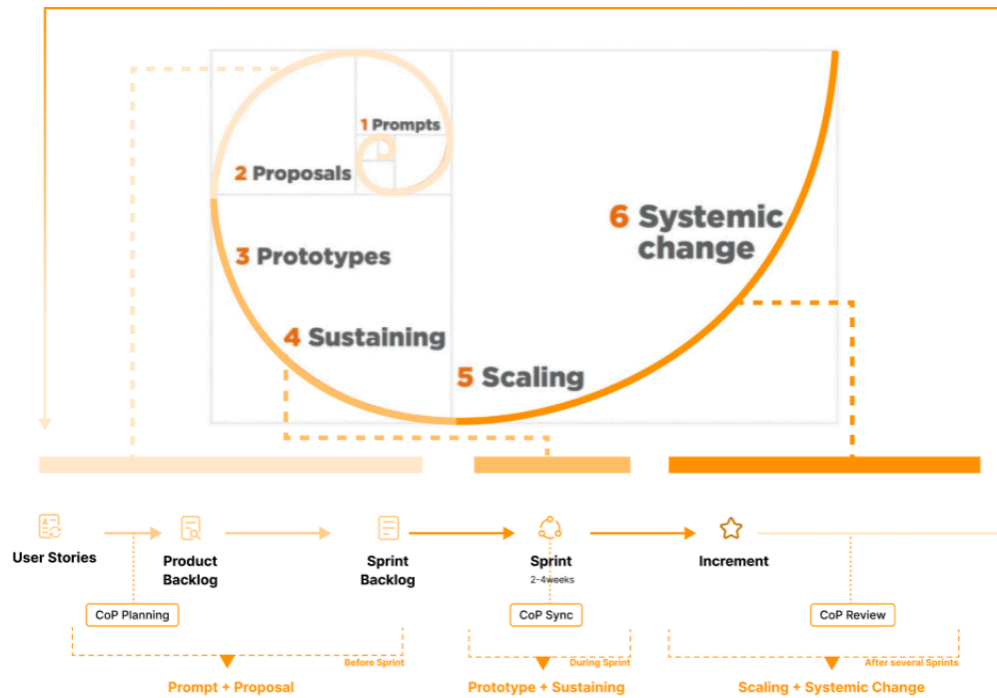


Figure 15. Co-design material: Social innovation spiral model with Scrum process

Source: Author

CoP Planning (user value focus)

Meeting situation:

The Product Owner wants to add the AI recommendation feature to the next Sprint. Before Sprint, the team needs to clarify whether the feature responds to real user needs and what user value the feature should create.

产品团队希望将 AI 个性化推荐功能加入下一轮 Sprint，以提高用户复购率。在该功能进入 Sprint 前，CoP team 需要明确这个需求是否回应了真实用户问题，以及它应该创造什么用户价值。

CoP Sync (business value focus)

Meeting situation:

During the Sprint, the team is developing the AI recommendation feature. The business goal is to increase repeat orders, but the team needs to check whether the solution is actually usable, trustworthy and technically feasible. CoP Sync is used to discuss design changes, AI outputs, technical constraints and value trade-offs during development.

在 Sprint 执行过程中，团队正在开发 AI 推荐功能。商业目标是提高复购率，但团队需要检查方案是否真的可用、可信且技术上可实现。CoP Sync 用于在开发过程中讨论设计变化、AI 产出、技术限制和价值取舍。

CoP Review (social value focus)

Meeting situation:

After the AI recommendation feature has been tested or released, the team needs to review not only whether repeat orders increased, but also whether the feature created wider impacts. CoP Review helps the team reflect on trust, transparency, user autonomy, fairness and long-term consequences before scaling the feature.

在 AI 推荐功能被测试或上线后，团队不仅需要复盘复购率是否提升，也需要反思该功能是否带来了更广泛影响。CoP Review 帮助团队在扩展功能前反思信任、透明度、用户自主性、公平性和长期后果。

What should be discussed?	What should be discussed?	What should be discussed?
What designers can bring and could be produced?	What designers can bring and could be produced?	What designers can bring and could be produced?

Each stage has a primary value focus, but other values can still appear and be negotiated.

Figure 16. Co-design material: Three CoP meeting simulation

Source: Author

Phase 5: Co-create Toolkit

In the final phase, participants reviewed and refined the Ecosystem Map based on the outcomes of the previous activities. This phase did not only focus on improving a single tool, but also explored how service design tools could support long-term organisational learning and collaboration.

Through co-creation, participants further examined the potential application of service design tools within the Scrum CoP and provided feedback for the future refinement of the Dual-Track Scrum Model.

Overall, these five phases formed a continuous process from Scrum reflection to value exploration, from model understanding to practical validation, and finally to collaborative refinement. Through this process, the study was able to examine the Dual-Track Scrum Model based on designers' real Scrum practice experience. The workshop also helped evaluate whether the model could support design teams in expanding their organisational influence and contribute to the continuous creation and negotiation of user value, business value, and social value.

5.3.2 Co-design Outputs

The design outputs of the Co-design Workshop can be divided into three main parts. The first is the Scrum Value Reflection based on participants' previous Scrum/Agile project experience. The second is the practical application and validation of the Dual-track Scrum Model through the design scenario. The third is the further development of the Refined Ecosystem Map and Scrum CoP Assets based on the previous co-creation results. Together, these three parts form a continuous process from process reflection, to model validation, and finally to tool refinement.

First, as shown in Figure 17, the Scrum Value Reflection focused on participants' previous Agile/Scrum-related project experience. The discussion was structured around three stages: before sprint, during sprint, and after sprint. The main findings are as follows.

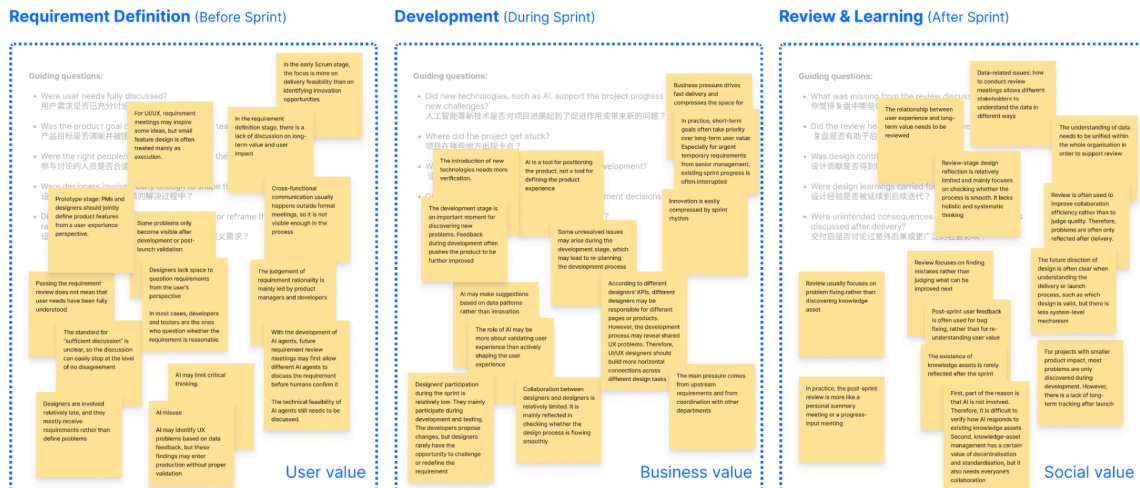


Figure 17. Co-design outputs: Scrum value reflection board

Source: Author

1. Lack of Early Design Involvement in Requirement Definition

In the before-sprint stage, participants indicated that designers are often involved relatively late in the process. Rather than participating in requirement definition, they usually receive and execute requirements that have already been shaped by others. This suggests that the early stage of Scrum-like workflows lacks a structured space for designers to question requirements from the user perspective and propose initial hypotheses. As a result, product goals may begin without a clear articulation of user value.

2. Unstable Design Judgement during Sprint Development

During the sprint, participants identified coordination between upstream and downstream stakeholders as one of the main challenges for design teams. As development progresses, technical constraints, urgent high-priority requirements, data updates, and implementation feedback often create new problems and reshape design decisions. From the perspective of process innovation, AI tools may bring opportunities to improve efficiency at this stage. However, their use in Scrum-like workflows is still exploratory, and their actual contribution to business value requires further validation.

3. Limited Organisational Learning in Post-sprint Review

In the post-sprint review and learning stage, participants noted that current review practices tend to remain focused on the completed project or function itself. They are mainly concerned with problem fixing, while paying less attention to the accumulation of knowledge assets or the influence of project experience on future products and teams. Therefore, the key innovation opportunity at this stage lies in reframing review

meetings as a mechanism for long-term organisational learning and design accumulation. In this way, the experience of individual projects can be transformed into reusable design assets, while also supporting reflection on broader business and social value.

Second, the second major co-design output was the practical application of the Dual-Track Scrum Model through the design scenario. This stage produced two main outputs: a scenario-based ecosystem map and feedback from the simulation of three CoP meetings.

As shown in Figure 18, the Dual-Track Scrum Model was introduced in this stage to support participants in working collectively as a design team. Based on the design scenario of an AI-powered recommendation feature for a food delivery platform, participants co-created an ecosystem map. Drawing on their previous design experience and their understanding of the scenario, they categorised the stakeholders into three groups: internal actors, non-human actors, and external actors. They also connected the system through three types of flows: service interaction flow, data flow, and decision flow. This map made the complexity of the scenario more visible and provided a foundation for the later introduction of the Social Innovation Spiral.

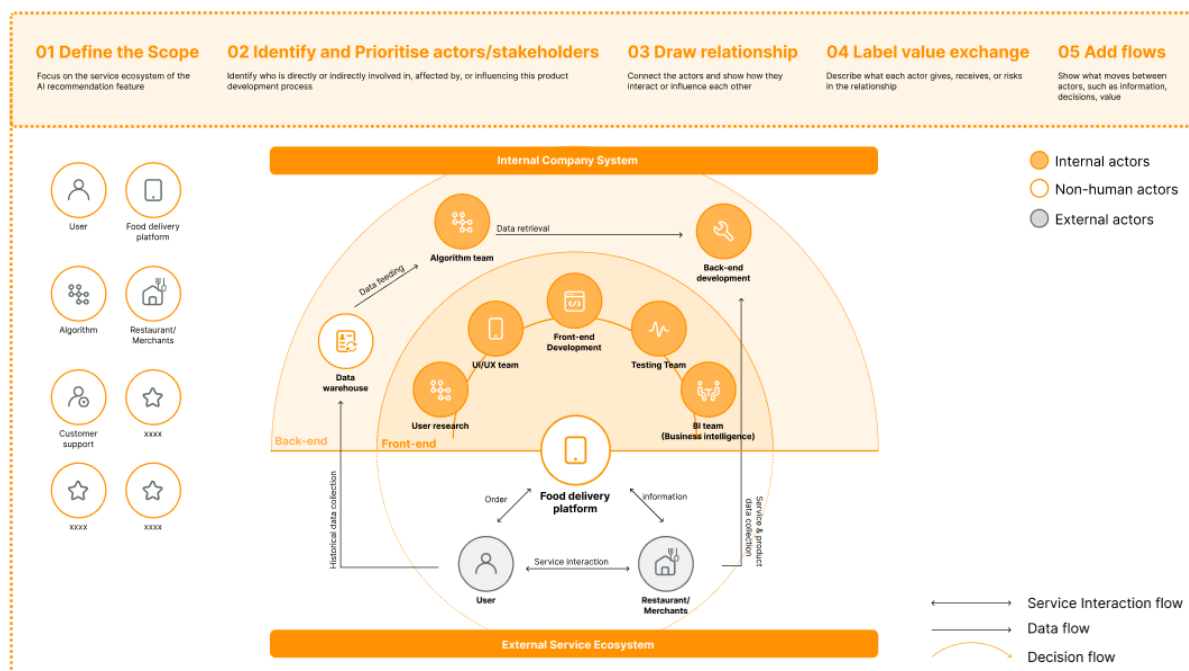
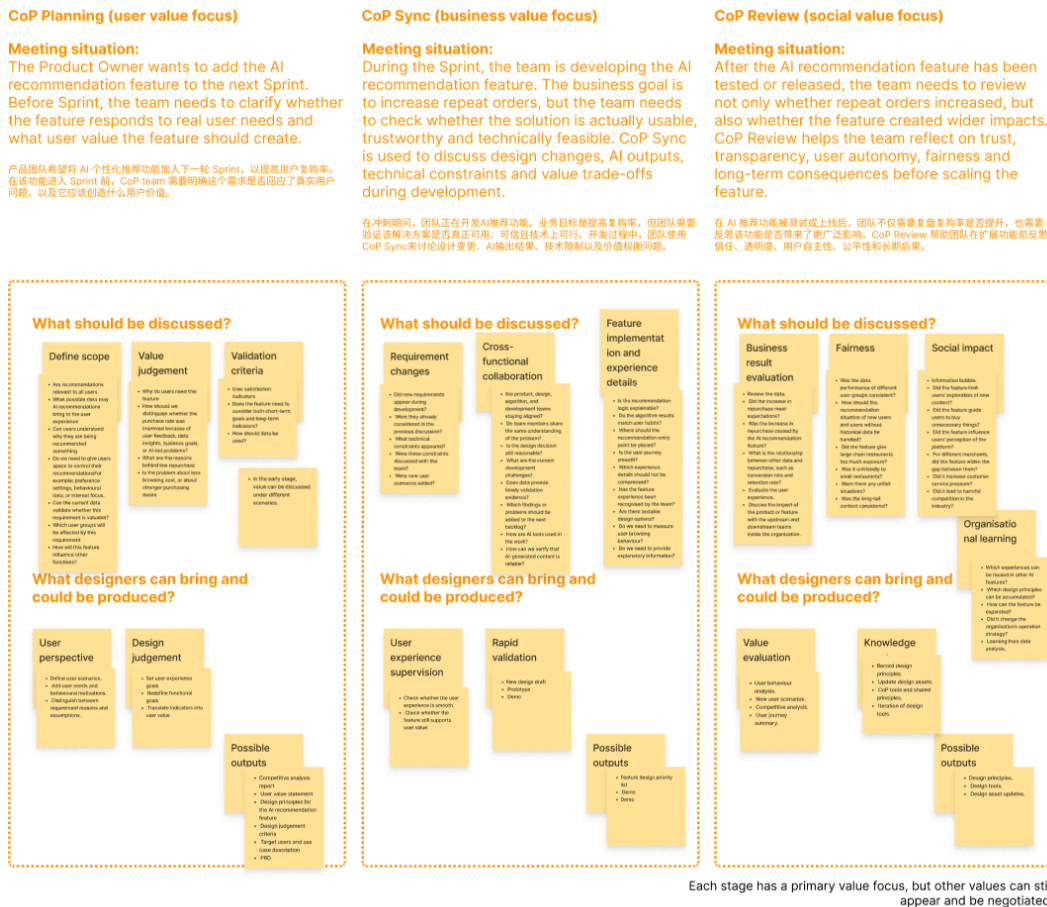


Figure 18. Co-design outputs: Ecosystem map

Source: Author

After the Social Innovation Spiral was introduced, participants reconsidered the key issues that should be addressed before, during, and after the sprint. This process provided a more

tangible way to understand how the Dual-Track Scrum Model could operate in practice. Based on participants' responses, as shown in Figure 19 two main findings were identified.



Each stage has a primary value focus, but other values can still appear and be negotiated.

Figure 19. Co-design outputs: Three CoP meetings

Source: Author

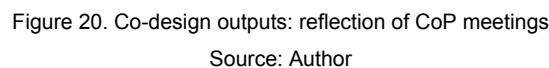
1. Broadening the Understanding of Product Requirements

The co-design process validated the value of the Dual-Track Scrum Model in broadening the team's understanding of requirements. In the design scenario, the AI recommendation feature was initially framed as a product requirement aimed at increasing repeat orders. However, after the ecosystem mapping activity and the simulation of the three CoP meetings, participants recognised that this requirement was not only related to business growth. It also involved multiple dimensions of value, including user experience, merchant exposure, fairness, the boundaries of AI use, data interpretation, and organisational learning.

2. Clarifying the Role of the Scrum CoP Team

The three simulated meetings helped clarify the position of the Scrum CoP Team

Finally, as shown in Figures 20 and 21, after completing the three CoP meeting simulations, participants returned to the ecosystem map created in the previous stage and further reviewed and refined it. The outputs of this stage can be summarised in four aspects.



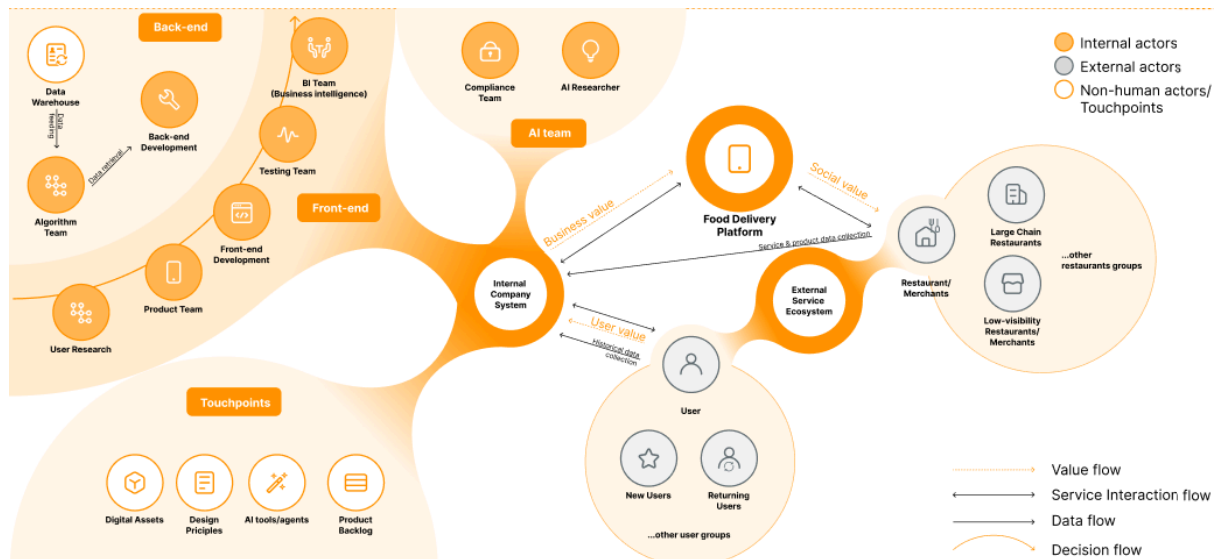


Figure 21. Co-design outputs: refined Ecosystem map

Source: Author

1. Broader Stakeholder Identification

Participants expanded the stakeholder scope beyond users, restaurants, the platform, and internal product teams. They added AI-related actors and non-human elements, such as Responsible AI guidelines, the AI recommendation system, AI tools, acceptance criteria, design principles, the compliance team, different user groups, different types of restaurants, and users within filter bubbles.

This indicates that the AI recommendation feature was no longer understood as a simple product function, but as part of a complex service system shaped by algorithms, data rules, organisational decisions, merchant ecosystems, and user behaviour.

2. Expanded Value Discussion

The refinement also broadened the discussion of value. While the initial map mainly focused on user experience, business goals, and service interactions, the refined map introduced social value, organisational learning value, and AI-related value.

Participants pointed out that AI recommendations may influence restaurant exposure, reinforce the advantages of large or already visible merchants, and increase pressure on smaller restaurants. They also noted that algorithmic recommendations may reduce users' opportunities to explore new options and keep them within existing preferences or filter bubbles.

3. **Attention to Organisational Learning and AI Responsibility**

Participants further connected the AI recommendation feature with organisational learning and responsible AI practice. They highlighted issues such as reusable design principles, AI design guidelines, criteria for future AI projects, cross-team knowledge sharing, documentation of design decisions, and design assets for future teams.

At the same time, they raised concerns about AI transparency, algorithmic bias, validation of AI outputs, user control over recommendations, and the role of AI in product decision-making. This shows that AI value was understood not only as efficiency or automation, but also as responsibility, fairness, explainability, and governance.

4. **Formation of Reusable Scrum CoP Assets**

The final output was the transformation of co-design discussions into Scrum CoP Assets. Before the sprint, these assets support user problem definition, value judgement, and AI opportunity assessment. During the sprint, they support AI output validation, service process mapping, and design decision documentation. After the sprint, they support impact evaluation, design principle accumulation, and AI knowledge sharing.

In this sense, the workshop outputs were not only temporary discussion records. They became reusable organisational assets that help the Scrum CoP Team define value before the sprint, validate value during development, and accumulate value after delivery.

5.4 **Design Outcome Summary**

Based on the previous co-design outputs, the design outcome of this study can be summarised through two dimensions. The first is Capability Expansion, which examines whether the Design Exploration Track and the Scrum CoP Team can enhance the participation and organisational influence of design teams in Scrum-like workflows. The second is Value Expansion, which examines whether service design methods and the Social Innovation Spiral Model can help teams move beyond a product-oriented mindset and further understand user value, business value, and social value.

As shown in Figure 22, From the perspective of Capability Expansion, the design outcome shows that the Design Exploration Track and the Scrum CoP Team can support design teams in moving beyond a traditional role of functional execution. Instead, designers can act as value coordinators and facilitators of organisational learning throughout the Scrum-like process. Design is no longer treated as a set of fragmented tasks carried out by individual

functions, but as a collective team capability. Through internal CoP meetings, the design team can connect different functional boundaries and link the Design Exploration Track with the Delivery Track. In this way, design is not limited to direct delivery, but becomes continuously involved in problem definition, value judgement, and organisational learning within product innovation.

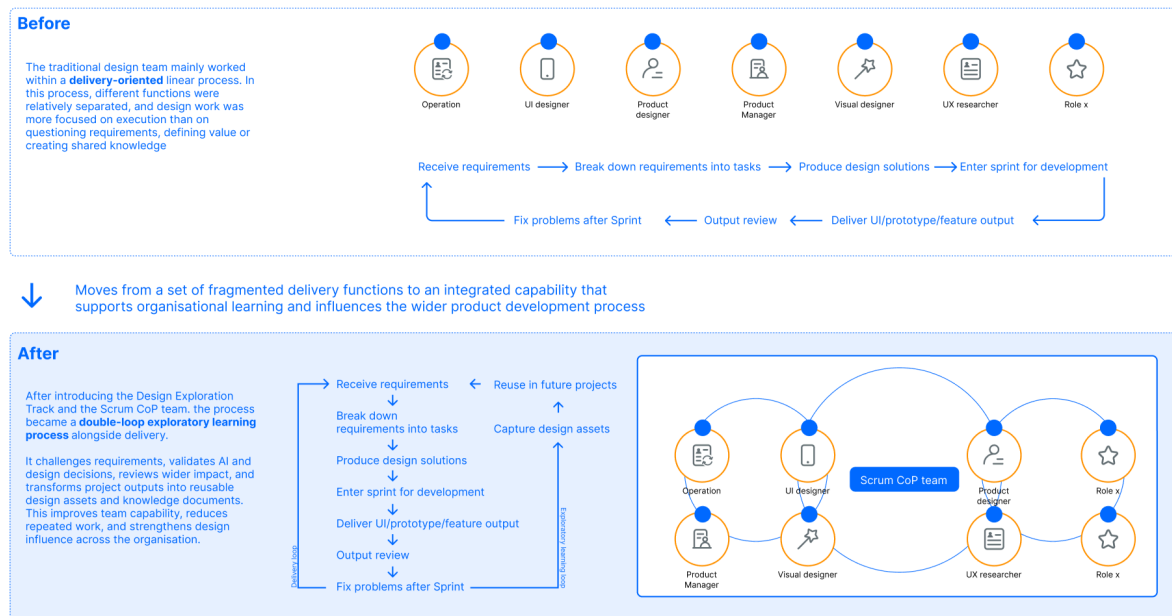


Figure 22. Co-design outcomes summary: Horizontal expansion

Source: Author

As shown in Figure 23, From the perspective of Value Expansion, service design methods and the Social Innovation Spiral Model help teams move beyond a narrow focus on product functions and business metrics. They allow a specific AI recommendation requirement to be reframed as a systemic discussion of multiple values. In the original design scenario, the AI recommendation feature was mainly defined as a product requirement for increasing repeat orders. However, through the ecosystem map, CoP meeting simulations, and refined map, participants gradually reinterpreted this requirement as a complex value issue involving user experience, the merchant ecosystem, algorithmic fairness, AI transparency, and organisational learning.

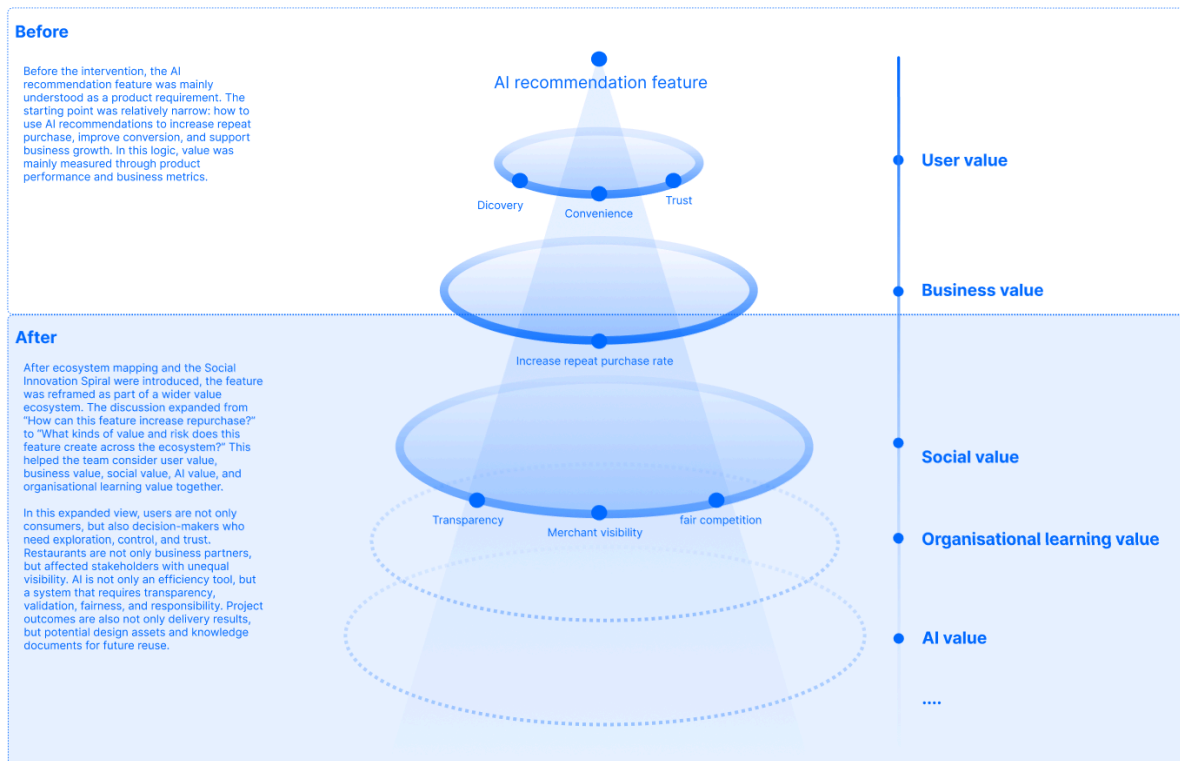


Figure 23. Co-design outcomes summary: vertical expansion

Source: Author

Overall, the co-design session indicates that, in a product development context increasingly shaped by AI and organisational complexity, the Dual-Track Scrum Model can help design teams expand both their process participation and their understanding of product value. It supports design teams not only in becoming more involved in Scrum-like workflows, but also in developing a deeper and more systemic approach to value creation.

6. Discussion

Based on the literature review, case study, interviews, and co-design workshop, this chapter further discusses the theoretical and practical implications of the research findings. Rather than repeating the findings, the discussion aims to explain how Scrum-like workflows can be reinterpreted as organisational mechanisms for innovation, how design teams may reopen spaces for exploration and value negotiation within these workflows, and how the development of AI further changes the relationship between product delivery, organisational learning, and long-term value creation.

6.1 How Scrum Becomes an Organisational Innovation Mechanism

6.1.1 Synthesis of Research Findings

This study has examined innovation in Chinese internet companies through several connected perspectives. The literature review first discussed the limitations of user-centred design, the organisational logic of Agile/Scrum, and the complementary value of service design and social innovation for design-driven innovation. The case study further showed that innovation in Chinese internet companies is not only technological breakthrough or product feature update, but a process of coordinating and judging among user value, business value, and social value. The interview findings revealed that, although design teams already participate in Scrum-like workflows, their roles are often constrained by unstable requirements, fast iteration rhythms, fragmented resources, technical limitations, and insufficient early-stage involvement. Finally, the co-design workshop explored how design teams can use service design tools and the social innovation spiral model to reopen spaces for design exploration, value reflection, and organisational learning within Scrum-based product development.

Based on these findings, this study argues that Scrum should not be understood only as an Agile product delivery framework. Instead, it should be reconsidered as an organisational innovation mechanism. In other words, the value of Scrum does not only lie in helping teams deliver products faster, but in providing an internal organisational process through which innovation ideas can be proposed, selected, tested, reviewed, and adjusted.

6.1.2 The Dual Innovation Role of Scrum

Scrum can play an innovation role because it organises uncertain innovation ideas into a process that teams can collectively handle. The Product Backlog allows user needs, business goals, technological opportunities, and organisational priorities to be translated into items that can be discussed and prioritised. The Sprint allows selected requirements to be transformed into prototypes, product increments, or concrete functions within short cycles. Sprint Review and Retrospective provide feedback and reflection mechanisms, through which product outcomes, user feedback, collaboration methods, and future directions can be re-evaluated. Therefore, Scrum is not simply an execution process, but a mechanism through which innovation can be organised, experimented with, evaluated, and adjusted.

In Chinese internet companies, Scrum is often not fully implemented in its standard form, but localised into Scrum-like workflows. As discussed earlier, product innovation in Chinese

internet companies is usually not completed through a linear process led by a single department. Instead, it is continuously advanced through cross-functional collaboration among product managers, designers, developers, testers, operations, data roles, and management within high-frequency iterations. This Scrum-like workflow reflects the first layer of Scrum's innovation value in Chinese internet companies: organisations internally redesign Agile and Scrum according to their own business forms, organisational structures, and platform conditions. Therefore, each company's product development process can be seen as a form of organisational adaptation and reinvention of Scrum. From this perspective, Scrum-like workflows support innovation.

However, Scrum as an innovation mechanism also has another side. This needs to be understood in relation to the system-constrained innovation context introduced at the beginning of this thesis. Innovation in Chinese internet companies does not take place in a fully open environment, but is shaped by business growth targets, internal management mechanisms, regulatory requirements, platform governance, resource allocation, and AI-assisted workflows. Within this system, the Scrum Team becomes the execution layer through which systemic constraints enter everyday product development. When market competition and organisational pressure become too strong, Scrum may shift from a mechanism of learning and adaptation to a mechanism of accelerated delivery. For example, business metrics may directly determine Backlog priorities, turning product discussions from long-term value judgement into short-term data optimisation. Sprint cycles may compress the space for user research and service exploration. Fragmented resources may prevent designers, developers, or data roles from staying continuously involved in the same project. AI tools may improve generation and analysis efficiency, but they may also create new forms of technical anxiety and validation pressure. In these situations, Scrum's original emphasis on collaboration, learning, adaptation, and user value may be replaced by short-term delivery, feature completion, and data performance.

Therefore, Scrum's innovation role in Chinese internet companies is not one-dimensional. This study understands Scrum as an organisational innovation mechanism shaped by tension. It both supports innovation and constrains it under certain conditions. Its value does not only lie in helping teams deliver products faster, but in providing a process framework through which innovation can be organised, filtered, implemented, and reflected upon.

6.1.3 Extending Scrum through Service Design and Social Innovation

Because Scrum has this dual character, the design intervention proposed in this thesis does not aim to replace Scrum. Instead, it responds to the problem that Scrum may be compressed by delivery pressure and metric-driven logic in real organisational contexts. When Scrum is combined with service design and social innovation, its organisational innovation role becomes clearer. Service design expands Scrum's focus from product increments to user contexts, service journeys, touchpoint relationships, backstage processes, and stakeholder collaboration. Social innovation further extends the meaning of innovation value from user value and business value to social value, organisational learning, and systemic impact.

Through this integration, Scrum is no longer only a process for managing product delivery. It can become an organisational mechanism that supports value reflection, cross-functional alignment, and long-term value co-creation. In this process, the role of design teams is also redefined. Design teams are no longer only responsible for delivering interfaces or experience solutions. Instead, they become mediators who connect user needs, business goals, technical conditions, organisational constraints, and social value.

Therefore, the Dual-Track Scrum Model proposed in this study can be understood as a response to Scrum's innovation role. It does not create a completely separate process outside Scrum. Rather, it attempts to reopen spaces for design exploration, value judgement, and organisational learning within existing Scrum-like workflows. In other words, when Scrum is combined with service design and social innovation, it gains a new role: it is no longer only a product delivery framework, but an organisational mechanism that supports more systemic, reflective, and value-oriented innovation.

6.2 Design Team as an Organisational Innovation Space in Scrum-like Workflows

In the dual nature of Scrum-like workflows, the design team becomes an important entry point for understanding and reopening spaces for innovation. This study argues that the design team should not be understood only as an execution role within the Scrum process. Instead, it can be seen as a potential organisational space for innovation. Here, "innovation space" does not refer to the creation of a separate department outside Scrum. Rather, it refers to the ability of design teams to reopen spaces for exploration, reflection, and value negotiation within existing organisational processes, especially where these spaces have been compressed by short iteration cycles, delivery pressure, and metric-driven logic.

The Dual-Track Scrum Model proposed in this study can be understood as a structured expression of this design-led innovation space. The Design Exploration Track provides design teams with a space for exploration that is not fully constrained by the rhythm of Sprint Delivery. The Scrum CoP Team further connects design experiences across different projects through cross-project discussion, method development, and knowledge sharing. Through these two mechanisms, design teams are no longer limited to local optimisation around predefined requirements. Instead, they are able to participate in Scrum-like workflows earlier, more continuously, and in a more strategic way.

At the same time, the development of AI technologies further expands the discussion of design teams' roles. In the AI era, the titles and capability boundaries of designers are changing. Traditional roles such as Product Designer, UX Designer, and UI Designer have not disappeared, but their responsibilities are being extended. Meanwhile, the emergence of roles such as Conversation Designer, Human-AI Interaction Designer, and Responsible AI Designer suggests that the object of design is shifting from the "interface" to the relationship between humans and intelligent systems. In some AI companies, design roles are also becoming more closely connected with technology, product, and research roles. This indicates that designers are no longer only producers of visual or interaction outputs, but are increasingly becoming integrative actors who connect user understanding, technological capability, product judgement, and responsible governance.

Therefore, the position of design teams within companies needs to be discussed as a long-term organisational issue, especially in the context of AI accelerating product development processes.

6.3 From product delivery to long-term value co-creation in the Age of AI

The final issue to discuss is how Scrum should respond to the rapid development of AI technologies. As AI increasingly enters organisational workflows in different forms, Scrum needs to address not only questions of efficiency, but also the changing relationship between humans, AI, and value judgement.

By 2026, AI is no longer only a tool that assists individuals in coding, documentation, or data analysis. It is increasingly entering enterprise workflows in the form of AI agents and agentic workflows. Deloitte predicts that 25% of enterprises using generative AI will launch agentic AI pilots or proofs of concept in 2025, rising to 50% by 2027 (Deloitte, 2024); Gartner similarly

predicts that up to 40% of enterprise applications will include integrated task-specific AI agents by 2026, compared with less than 5% in 2025 (Gartner, 2025). These projections suggest that AI is shifting from an assistive tool to an active actor within organisational processes.

Therefore, the key question for the AI era is not whether Scrum will be replaced, but how AI will be embedded into Scrum as an organisational mechanism, and how it will reshape requirement generation, team collaboration, and value judgement. Once AI enters organisational workflows, its influence is no longer limited to individual user experience. Instead, it extends across the wider service system and organisational value chain. For this reason, user-centred design also needs to be expanded. It is no longer sufficient to ask whether user needs are being met. Design teams also need to examine whether AI-supported product decisions influence broader stakeholders, service relationships, and long-term value. This study therefore argues that Scrum in the AI era should move from product delivery towards long-term value co-creation. The introduction of service design and social innovation perspectives provides teams with stronger frameworks for making such judgements. AI may help Scrum move faster, but design helps Scrum see further.

7. Conclusion and Prospect

7.1 conclusion

In conclusion, this study has examined Scrum-like workflows in Chinese internet companies and explored how design teams can introduce service design and social innovation perspectives into a system-constrained innovation context. The aim is to consider how product development can move beyond short-term delivery and towards long-term value co-creation.

Academically, this study connects user-centred design, Agile/Scrum, service design, and social innovation. In doing so, it addresses a gap in existing research, where limited attention has been given to organisational workflows in Chinese internet companies, the role of design teams, and the mechanisms through which multiple forms of value are negotiated. The findings suggest that Scrum-like workflows have a dual character. On the one hand, they support innovation through short-cycle iteration and cross-functional collaboration. On the other hand, under the pressure of business metrics and fast delivery, they may reduce the space for design exploration and value reflection. In this context, the design team can act as a key entry point for reconnecting user value, business value, and social value.

In practical terms, this study proposes the Dual-track Scrum Model as a possible way to reorganise Scrum-like workflows. The model supports design teams in participating earlier and more continuously in the product development process, rather than being limited to requirement execution and interface delivery. It also provides a reflective framework for understanding the changing relationship between AI, organisational decision-making, and value creation in the AI era.

At the same time, this study has several limitations. The sample size of the interviews and co-design workshop was limited, and the case materials were based on public information and participants' practical experience. Since Chinese internet companies differ in business goals, organisational structures, and workflow practices, the Dual-track Scrum Model should not be understood as a universal conclusion for Scrum practice. It is still at the stage of conceptual validation and participatory evaluation, and requires further long-term testing in real organisational settings. It may also need to be adjusted according to different business contexts.

Therefore, the conclusion of this study should be understood as an exploratory experiment situated in the specific context of Chinese internet companies. The Dual-track Scrum Model is not proposed as a fixed solution, but as a heuristic framework for further discussion and practice.

7.2 Prospect

The arrival of the AI era also raises new long-term questions for Scrum and design research. One important direction for future study is to examine how AI will enter internal organisational processes and how it may reshape Scrum-like workflows. From a design perspective, AI can be understood as a new lens through which companies need to re-examine their existing platforms, applications, service processes, and user relationships. Its influence is not limited to product experience; it may also reshape ways of working, role boundaries, and innovation mechanisms within organisations.

Overall, we cannot use old maps to explore a new world. This study offers a starting point for further exploration. As AI technologies, internet organisations, and design practices continue to evolve, Scrum-like workflows will also be continuously redefined. As designers, we need to participate in drawing and continuously refining this new map.

8. Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this thesis, the author used ChatGPT and Grammarly as AI-assisted tools. ChatGPT was mainly used for language refinement, translation support and structural improvement of written text. Since part of the background research was based on Chinese-language references and sources, some sections were first drafted in Chinese and then translated and refined into English with the assistance of ChatGPT. In addition, as the interview participants were native Chinese speakers, ChatGPT was used to assist in summarising, organising and translating interview materials from Chinese into English.

Grammarly was used for grammar checking, spelling correction and improving language clarity. These tools were not used to generate the core research ideas, research design, analysis, findings or conclusions of the thesis. All AI-assisted content was carefully reviewed, edited and verified by the author. The author takes full responsibility for the final content of this thesis.

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Appendix

Co-design materials and outcomes:

Co-design Overview

Overall Aim

The aim of this co-design workshop is to refine the proposed Dual-track Scrum model through participants' real Scrum / Agile experiences and a concrete design scenario. The workshop explores how designers can participate earlier, more continuously and more influentially through a Design CoP, and how service design thinking can help Scrum teams identify and validate user value, business value and social value.

Target participants

Designers in Internet firms

Duration

60 mins - 80 mins

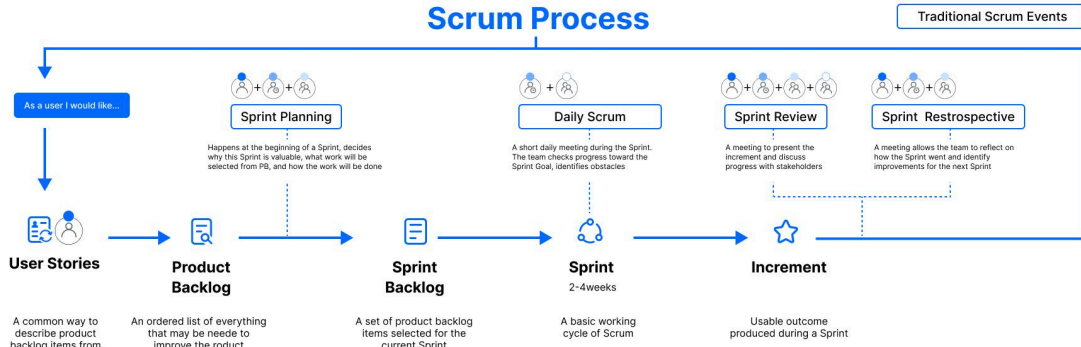
Key activities

Activity	Context setting & Scrum Alignment	Scrum Value Reflection	Dual-track model walk through & Scenario Ecosystem Mapping	Scrum CoP Meeting Simulation	Co-create toolkit
Duration	5 mins	10 mins	10 mins	20 mins	30 mins
Objective	Build a shared understanding of Scrum workflow, roles, and introduce each other	Reflect on previous Scrum/ Agile project experiences and identify value gaps	Introduce Dual-track Scrum model through a concrete design scenario and co-create ecosystem map	Simulate three Design Exploration Track meetings and define CoP team responsibility through Social Innovation Spiral Model	Iterate ecosystem map and explore how design outputs can become reusable organisational assets
Outcome	Shared Scrum understanding	A Scrum-based Value Reflection Map	A Scenario-based Ecosystem Map	A Scrum CoP responsibility map	A Refined Ecosystem Map

Context Intro (5 mins)



Scrum Process



Co-design Activities (60-80 mins)

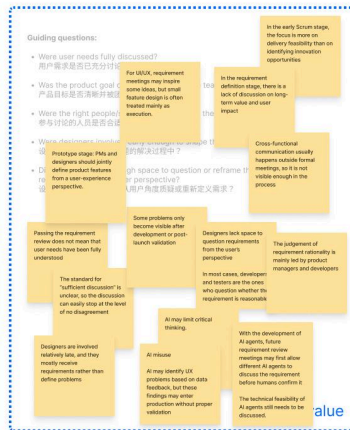
01 Scrum Value Reflection

Look back to previous Agile or Scrum-related project you have participated in. Reflect on what could be improved in the process

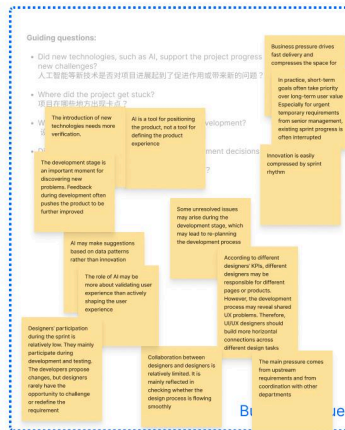
Goal: Identify potential process innovation points through an innovation lens and co-create the following scrum-based value reflection map

10 mins

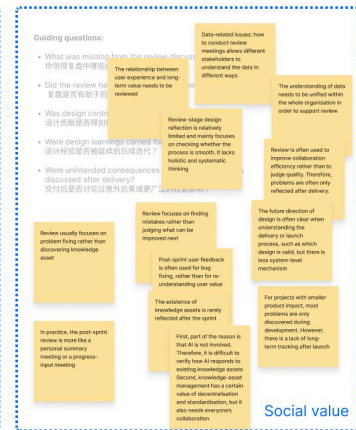
Requirement Definition (Before Sprint)



Development (During Sprint)



Review & Learning (After Sprint)

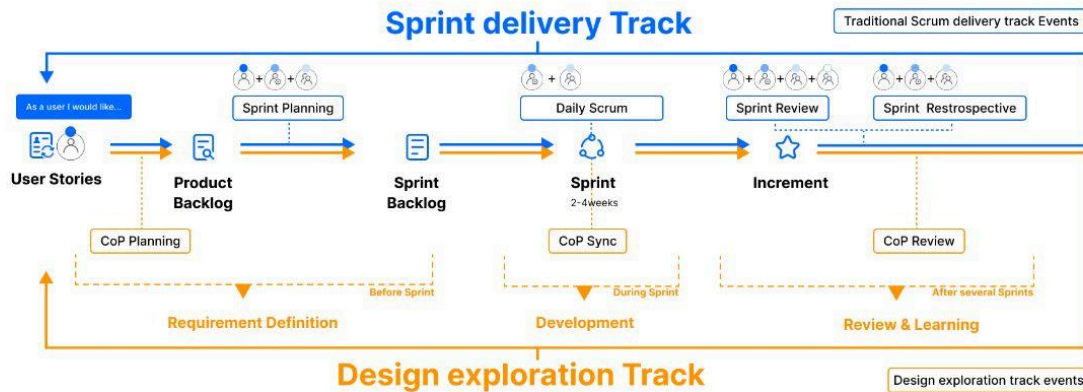


02 Dual-track Scrum Model walkthrough & Scenario Ecosystem Mapping

20 mins

Walk participants through the proposed Dual-track Scrum model and help participants understand how the model operates through a concrete design scenario

Goal: Understand how Dual-track Scrum Model works through introducing design scenario and co-create the ecosystem map



• What is Dual-track Scrum Model

The Design Exploration Track is a flexible, design-led track that runs alongside traditional Scrum. It supports designers and cross-functional teams to explore user value, business value and social value, while also tracking how AI or other emerging technologies reshape Scrum practice.

• Three key features of Design exploration track

Increasing designers' participation in Scrum

Tracking the impact of AI and emerging technologies on Scrum

Expanding user value into business value and social value

• Scrum CoP (Community of Practice)

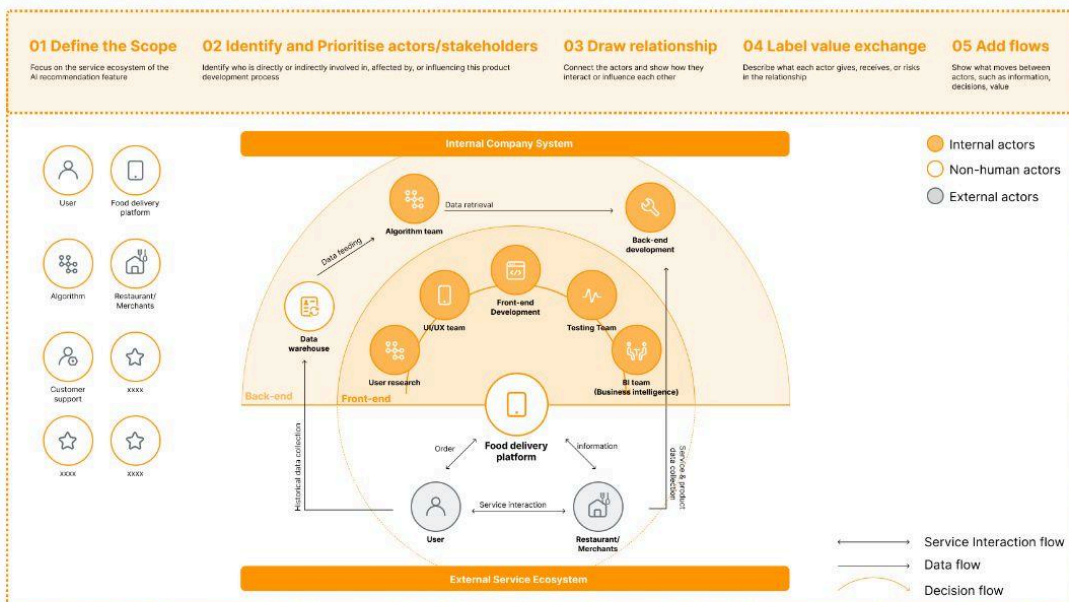
Scrum CoP is a design-led Community of Practice, it provides a flexible space for designers and cross-functional team members to share knowledge, reflect on user, business and social value, and improve Scrum practices across projects.

Dimension	Scrum Team	Scrum CoP
Main focus	Sprint goal and delivery	Learning, practice improvement
Scope	Usually serves one product or project	Can work across products, projects and teams
Key concern	Completing backlog items	Improving collaboration and value reflection
Time horizon	Short-term Sprint cycle	Long-term learning and capability
Main output	Product increment	Shared knowledge, methods, templates and principles

Design Scenario

A food delivery platform is planning to launch an AI-powered personalised recommendation feature to increase repeat orders. The business team believes that more personalised food and restaurant recommendations can help users make faster decisions and encourage them to order more frequently.

Please co-create an ecosystem map for the AI recommendation feature from a Design CoP perspective. Focus on identifying the key actors, their relationships, and where the Design CoP could connect people, information and value within the system.

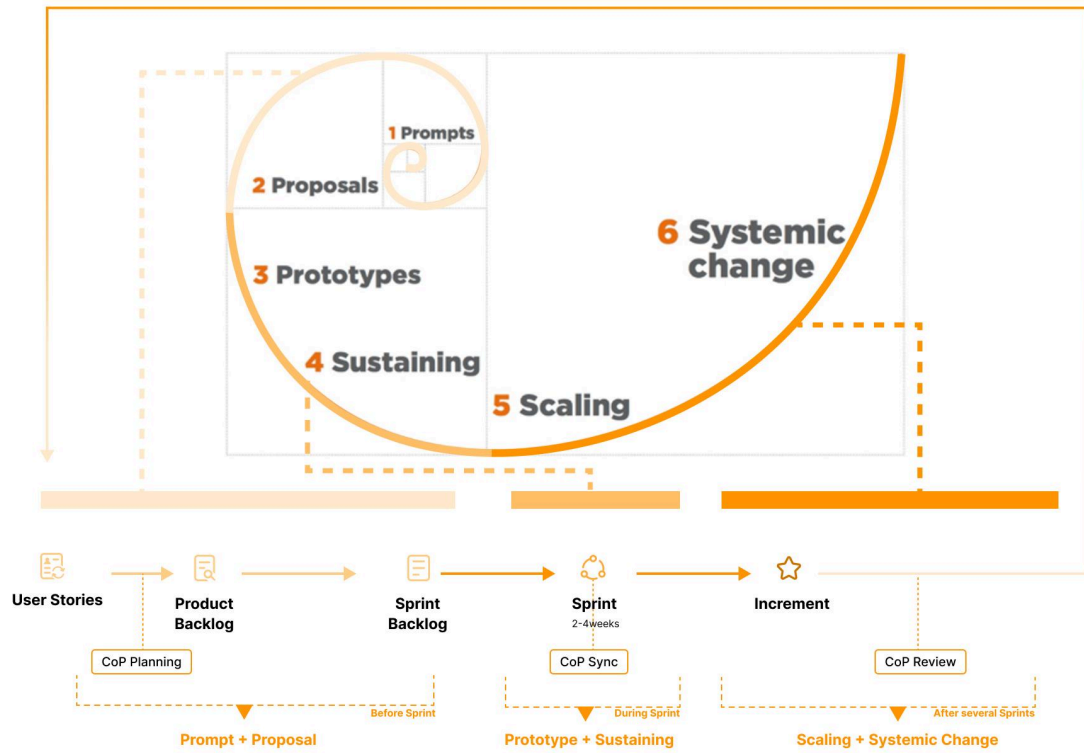


03 Scrum CoP Meeting Simulation

20 mins

Introduce Social Innovation Spiral Model into Dual-track Scrum Model, and define what the Scrum CoP team should do by simulating CoP Planning, CoP Sync and CoP Review meeting.

Goal: Define Scrum CoP team responsibility and think about how to move from user value to business value and social value



Please imagine you are part of the Scrum CoP team. For each CoP meeting, discuss what the team should focus on, what designers should bring into the conversation, and what concrete output should be produced to support user value, business value or social value.

CoP Planning (user value focus)

Meeting situation:

The Product Owner wants to add the AI recommendation feature to the next Sprint. Before Sprint, the team needs to clarify whether the feature responds to real user needs and what user value the feature should create.

产品团队希望将 AI 个性化推荐功能加入下一轮 Sprint，以提高用户复购率。在该功能进入 Sprint 前，CoP team 需要明确这个需求是否回应了真实用户问题，以及它应该创造什么用户价值。

CoP Sync (business value focus)

Meeting situation:

During the Sprint, the team is developing the AI recommendation feature. The business goal is to increase repeat orders, but the team needs to check whether the solution is actually usable, trustworthy and technically feasible. CoP Sync is used to discuss design changes, AI outputs, technical constraints and value trade-offs during development.

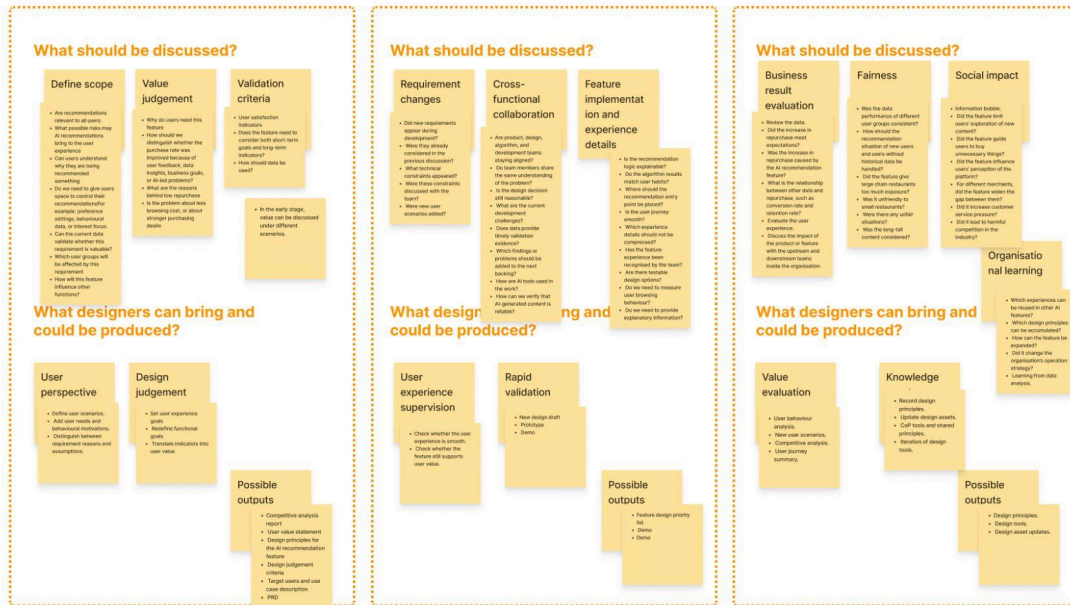
在冲刺期间，团队正在开发 AI 推荐功能。业务目标是提高复购率，但团队需要验证该解决方案是否真正可用、可信且技术上可行。开发过程中，团队使用 CoP Sync 来讨论设计变更、AI 输出结果、技术限制以及价值权衡问题。

CoP Review (social value focus)

Meeting situation:

After the AI recommendation feature has been tested or released, the team needs to review not only whether repeat orders increased, but also whether the feature created wider impacts. CoP Review helps the team reflect on trust, transparency, user autonomy, fairness and long-term consequences before scaling the feature.

在 AI 推荐功能被测试或上线后，团队不仅需要重复复购率是否提升，也需要反思该功能是否带来了更广泛影响。CoP Review 帮助团队在扩展功能前反思信任、透明度、用户自主性、公平性和长期后果。



Each stage has a primary value focus, but other values can still appear and be negotiated.

04 Co-create toolkit

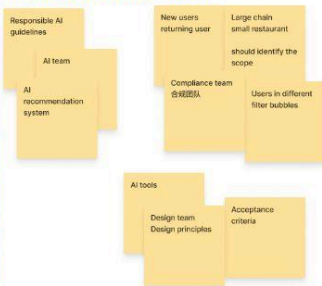
Iterate the scenario ecosystem map based on the Scrum CoP meeting outputs, and to explore how these outputs can become reusable organisational assets that can support future projects

Goal: Get refined Ecosystem Map and let it serve as an organisational asset

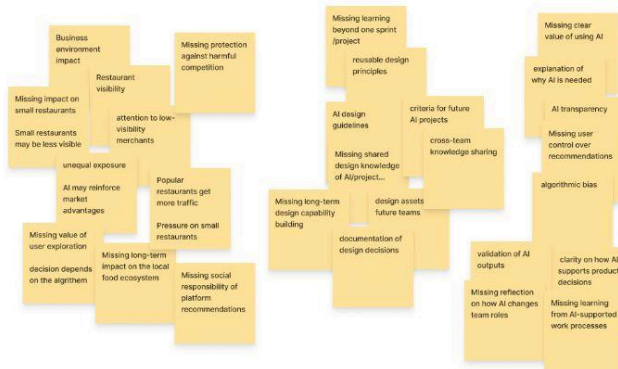
30 mins

Look back at the CoP Planning, CoP Sync and CoP Review outputs. Identify any missing stakeholders, overlooked values, weak connections or tensions that should be added to the previous ecosystem map

Missing actors/stakeholders



Missing values



Missing actors/stakeholders



Missing values



Refine the ecosystem map to show how the Scrum CoP team can better connect stakeholders, support user, business and social value, and turn CoP outputs into future design asset

