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ÉCOLE NATIONALE SUPÉRIEURE DE MANAGEMENT

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Theme:

Agile Scrum Methodology for digital product Development: A Case Study of Yassir Cash in Algeria

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Abstract:

The growing complexity of fintech product development in emerging markets has increased the need for flexible methodologies capable of adapting to regulatory and market constraints. Agile Scrum has emerged as a widely adopted framework for managing iterative product delivery, yet its application in regulated and cash-dominant environments remains underexplored. This research aims to examine how Agile Scrum was applied to develop and integrate Yassir Cash, a digital wallet, within the Yassir super app in Algeria. A qualitative case study method was used, drawing on semi-structured interviews with six team members, internal documentation, and observational data collected during a one-month internship. The results indicate that the team maintained consistent sprint cadence and applied a dual-track discovery-delivery model, while adapting the framework through a distributed Product Owner function, the absence of a Scrum Master, and regulation-first product decisions. As a conclusion, Agile Scrum can operate effectively in constrained fintech ecosystems when adapted to regulatory realities, but the absence of formal facilitation and end-user testing remain structural gaps that limit the full benefits of the framework.

Keyword: Agile, Scrum, digital wallet, super app, fintech, product development,sprint, emerging markets, regulatory contraints, Algeria

Résumé:

La complexité croissante du développement de produits fintech dans les marchés émergents a renforcé le besoin de méthodologies flexibles capables de s'adapter aux contraintes réglementaires et de marché. La méthodologie Agile Scrum s'est imposée comme un cadre largement adopté pour gérer la livraison itérative de produits, mais son application dans des environnements réglementés et à prédominance cash reste peu explorée. Cette recherche vise à examiner comment Agile Scrum a été appliqué au développement et à l'intégration de Yassir Cash, un portefeuille électronique, au sein de la super-application Yassir en Algérie. Une méthode d'étude de cas qualitative a été utilisée, s'appuyant sur des entretiens semi-directifs avec six membres de l'équipe, des documents internes et des données d'observation collectées lors d'un stage d'un mois. Les résultats indiquent que l'équipe a maintenu un rythme de sprint régulier et appliqué un modèle de découverte et de livraison en parallèle, tout en adaptant le cadre à travers une fonction de Product Owner partagée, l'absence de facilitateur Scrum et des décisions produit guidées par la réglementation. En conclusion, Agile Scrum peut fonctionner efficacement dans des écosystèmes technologie financière contraints lorsqu'il est adapté aux réalités réglementaires, mais l'absence de facilitation formelle et de tests utilisateurs demeurent des lacunes structurelles qui limitent les bénéfices complets du cadre.

Mots-clés : Agile, Scrum, portefeuille électronique, super-application, fintech, développement produit,itération, contraintes réglementaires, marchés émergents, Algérie

ملخص:

أدّى تزايد تعقيد تطوير منتجات التكنولوجيا المالية في الأسواق الناشئة إلى الحاجة المتنامية لمنهجيات مرنة قادرة على التكيّف مع القيود التنظيمية ومتطلبات السوق. وقد برزت المنهجية الرشيقة بوصفها إطاراً واسع الانتشار لإدارة تسليم المنتجات بشكل تكراري، غير أن تطبيقها في البيئات الخاضعة للتنظيم والمعتمدة على الدفع النقدي لا يزال يفتقر إلى الدراسة الكافية. تهدف هذه الدراسة إلى فحص كيفية تطبيق المنهجية الرشيقة في تطوير وإدماج محفظة رقمّة ضمن التطبّق الشامل في الجزائر. اعتمد منهج دراسة الحالة النوعية استناداً إلى مقابلات شبه موجّهة مع ستة أعضاء من الفريق، ووثائق داخلية، وبيانات مراقبة جُمعت خلال تربص مدة شهر واحد. أشارت النتائج إلى أن الفريق حافظ على إيقاع منتظم لدورة التطويرية القصيرة وطبّق نموذجاً مزدوجاً للاستكشاف والتسليم المتوازيين، مع تكييف الإطار من خلال توزيع مهام قائد سكرم وغياب دور مالك المنتج واتخاذ قرارات المنتج وفق أولوية التنظيم. وخلصت الدراسة إلى أن المنهجية الرشيقة يمكن تطبيقه بفاعلية في بيئات التكنولوجيا المالية المقيّدة متى كيّفَت مع الواقع التنظيمي، إلا أن غياب التيسير الرسمي واختبارات المستخدم النهائي يبقيان ثغرتين هيكليتين تحدّان من الاستفادة الكاملة من هذا الإطار.

الكلمات المفتاحية: المنهجية الرشيقة، سكرم، المحفظة الرقمية، التطبيق الشامل، التكنولوجيا المالية، إدارة المنتج، الدورة التطويرية، القيود التنظيمية، الأسواق الناشئة، الجزائر.

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LIST OF ABBREVIATIONS AND ACRONYMS

BFF: Backend-for-Frontend

DoD: Definition of Done

FS: Financial Services

KYC: Know Your Customer

LMD: Last Mile and Delivery

MVP: Minimum Viable Product

OKR: Objectives and Key Results

PM: Product Manager

PRD: Product Requirements Document

PSP: Payment Service Provider

QA: Quality Assurance

Scrum: Specific Agile Framework

SDK: Software Development Kit

TAM: Technology Acceptance Model

UTAUT: Unified Theory of Acceptance and Use of Technology

GENERAL INTRODUCTION

1. Research background and context

Over the last ten years, we've witnessed financial technology fundamentally transform money management; Individuals and businesses now store and transfer value primarily using digital wallets and electronic platforms (Allali, Guechi, and Berkane, 2022). Transactions worth trillions of dollars worldwide each year are not an accident; They occur because today's consumers demand both speed and impenetrable security (Bougouffa, 2025).

Things seem completely different in poor countries, moving away from actual cash in such areas isn't just for convenience. It truly creates a bridge to financial inclusion for groups that have long been excluded from traditional banking (AfricaNenda, 2024; Bougouffa, 2025).

Then there is Algeria, a nation that exhibits an odd paradox. Technically, everything is going relatively well. The use of smartphones is increasing. State investments in interbank systems like GIE Monétique are strong, and mobile networks and internet access are more widely available than before (Allali et al., 2022). However, widespread digital payment practices have not resulted from all of this infrastructure. For everyday necessities, people still strongly favor cash. A significant portion of adults do not have a traditional bank account, and confidence in digital finance is still quite low (Allali et al., 2022; AfricaNenda, 2024). The profound cultural dependence on tangible money was not disrupted even by a worldwide emergency such as COVID-19. Although it did momentarily increase online payments for utilities and telecom bills, the general dominance of cash was unaffected (Allali et al., 2022).

This precise friction is mirrored throughout the local regulatory landscape. Laws are undoubtedly on the books. For example, Law 18 05 and recent finance bills have officially validated ecommerce. They require platforms to obtain licenses and report to the Bank of Algeria and Algeria Post (Allali et al., 2022; Almi & Awashreh, 2025). However, existing rules are frequently incomplete. Data security standards continuously changing, causing confusion. Additionally, a limited number of state-owned banks control the majority of the market, which inevitably discourages new innovation (Almi & Awashreh, 2025). Policymakers are showing signs of life, having recently implemented online payment channels and expanded GIE Monétique. They also introduced the Switch Mobile rapid payment solution. Even with these attempts, the entire ecosystem is still finding its feet (Allali et al., 2022; AfricaNenda, 2025).

Local tech companies aren't holding out for things to settle. Startups like Guiddini are currently experimenting QR codes and virtual point-of-sale systems. To assist smaller companies in modernizing and joining the formal economy, they employ digital invoicing (Bougouffa, 2025). Conventional banks

are also carefully experimenting with mobile apps and basic financial services. Strict risk management is a major component of their extremely cautious strategy (Almi & Awashreh, 2025). Despite these advancements, Algeria is still a developing market for digital payments. Although the nation has a high rate of digital inclusion, actual account ownership and digital money usage are far lower than in comparable parts of Africa and the developing globe (AfricaNenda, 2024; globe Bank, 2021).

This complex transitional phase is exactly what prompted Yassir to build Yassir Cash into its primary platform. As a dominant Algerian super app, Yassir already bundles delivery services, ecommerce, and ride hailing. We know this business model works incredibly well in places like Latin America and Asia. A built in digital wallet acts as the financial heartbeat for everyday consumer activities in those markets (Bougouffa, 2025). Look at GrabPay, WeChat Pay, or Peru's Yape. They prove that embedding a wallet inside a larger app can skyrocket user engagement and unlock entirely new revenue channels across merchant networks (AfricaNenda, 2025; Yape case materials). Taking that blueprint and making it work in Algeria forces a company to navigate some brutal infrastructural and regulatory hurdles.

The Yassir team decided to employ an agile methodology in the Yassir Cash project in order to achieve this. They specifically depended on the Scrum framework. An aspect of more traditional software development methods is the requirement for considerable advance planning, which is eliminated by agile. Rather, it prioritizes rapid iterations, continuous delivery, and adapting to challenges as they emerge. The research provide compelling evidence for this. Teams that successfully use agile usually maintain customer happiness, enhance collaboration, and release products faster. An agile framework is difficult to implement in a highly regulated financial project. Significant adjustments to the local context and strong managerial assistance are required to sustain the quick speed in compliance with corporate policies (Hirner, 2019).

Yassir Cash initiative is an excellent case study because of this special arrangement. It enables us to examine in detail how Scrum functions within a fast-expanding Algerian IT company that must contend with strict financial regulations.

This thesis delves deeply into that particular dynamic. In addition to a range of structured and semi-structured interviews performed during a recent internship at Yassir, it employs a qualitative method based on internal corporate documentation.

2. Problem statement

Researchers that study Algerian fintech typically identify a number of fundamental issues. Everyone agrees that digital payments have the potential to greatly advance financial inclusion and economic development. However, the narrative of actual adoption is far slower. Ongoing obstacles include inconsistent regional infrastructure and regulatory obstacles. Additionally, people lack fundamental digital financial knowledge and genuinely prefer physical cash (Allali et al., 2022; Bougouffa, 2025; Almi & Awashreh, 2025). Empirical evidence indicates that the legal system is still in the process of figuring things out. The banking industry is totally dominated by public entities. Additionally, there is a sizable unofficial economy operating in the background. Launching new financial products is extremely challenging due to all these issues (Allali et al., 2022; Almi & Awashreh, 2025).

This reluctance is clearly supported by recent consumer research. Algerians use mobile phones all the time and are quite active online. In any case, they continue to be quite wary about digital currency. Most individuals and small businesses use digital platforms only for certain purposes. Consider purchasing transportation tickets, paying tuition, or shopping online. Users actually fear fraud. They are always concerned about the inability to undo unintentional transfers. Additionally, there is a general lack of awareness about what services are available, poor customer service, and dropped networks, all of which are major sources of dissatisfaction. This reluctance is felt directly by merchants. According to their analysis, consumer appetite for digital solutions is entirely erratic. It is still quite uncommon to find a retailer that takes point-of-sale transactions or digital wallets (AfricaNenda, 2024).

There are benefits and drawbacks to using agile frameworks in emerging markets. Theoretically, Scrum and related techniques should accelerate product delivery. They promote improved stakeholder collaboration and maintain teams in line with changing requirements. Those benefits seem ideal in a fast-paced fintech setting. Generally speaking, reality is a little messier. According to studies, teams must actively adapt agile methods to conform to strict hierarchies and local business cultures. Significant sacrifices are also required by regulations. Rather than the code itself, core issues typically center on inadequate leadership and communication. Large corporations discover that full adherence to agile guidelines does not yield actual productivity. It really comes from having a well-thought-out team structure, minimizing employee turnover, and ensuring that various divisions communicate with one another.

We have a lot of research on fintech and agile approaches. Oddly, no one appears to be examining the areas where these spaces overlap. Our understanding of how developers create incredible products and incorporate digital wallets within very limited financial institutions is essentially nonexistent. The majority of agile case studies become bogged down in technical code specifics or concentrate mostly on developed Western markets. In the meantime, studies on digital payments in Algeria typically focus too broadly. Instead of examining how local businesses really develop their software, it concentrates on significant cultural or legal obstacles (Allali et al., 2022; Bougouffa, 2025). There is a similar blind gap in the literature on super applications. It mainly draws on Latin American or Asian success stories. Researchers rarely look at North African platforms trying to survive strict foreign exchange controls, disconnected banking systems, and a booming informal economy (Bougouffa, 2025; AfricaNenda, 2025).

We get at a very specific issue as a result of this enormous research gap. Simply said, we lack empirical evidence demonstrating how an Algerian platform such as Yassir truly employs Scrum to construct a wallet. We must understand how they modify the regulations to thrive in the local financial system. Here, a few of particular riddles are still entirely unresolved. The user path for a new digital wallet must be defined and prioritized by a super app in an emerging market. Additionally, it is uncertain how development teams adapt traditional Scrum roles and everyday activities when they must simultaneously satisfy external government authorities and internal supervisors. Then there is the enormous problem of coordination. How a business connects a single financial wallet across several daily services without depending on unreasonably complex technical documentation is beyond us.

Answering these questions does more than simply explain Yassir and its particular business trajectory. It provides an important road map for other regional platforms. Any fintech startup in Algeria or similar markets will eventually confront the same challenges. They must understand how to combine agile software development with digital wallet techniques in environments where user confidence is poor and laws are extremely strict.

3. **Research questions**

All of this background information directly relates to the main topic of our study. This entire thesis is motivated by one main question.

How the Agile/Scrum framework was was implemented and adapted in the development and integration of Yassir Cash within the Yassir super app ecosystem?

By addressing this fundamental query, we are able to disclose some important facts about creating digital financial products in extremely constrained settings.

Rather than software architecture or code details, the emphasis is on product management and team coordination. Our goal is to comprehend the organizational mechanisms involved. We must answer a few specific sub-questions in order to break down that enormous subject:

A. How was the initial vision, functional scope, and value proposition of Yassir Cash defined, and how did it evolve across sprints?
B. How were Scrum roles, events, and artefacts actually implemented at Yassir, and in what ways were they adapted to organizational and regulatory realities?

C. How did legal, regulatory, and infrastructural constraints in Algeria shape product decisions and sprint planning for Yassir Cash?
D. In terms of user journeys, dependencies with other Yassir services, and team communication, how was the integration of Yassir Cash into the super app structured functionally? How were this integration issues handled within Scrum cycles?
E. What were the outcomes and challenges of this agile product journey in terms of time-to-market, internal alignment, early user adoption, and trust? What can be learned for future digital wallet development in comparable ecosystems?

In addition to describing what transpired in the Yassir Cash project, the paper seeks to provide analytically grounded insights into how Scrum techniques, super-app strategy, and the limitations of the Algerian financial system interact.

4. Methodology:

This study adopts a qualitative research design based on a single embedded case study conducted at Yassir during a one-month internship. Data were collected through semi-structured interviews with six team members, analysis of internal product documentation, and direct observation of Scrum ceremonies. This methodological choice is justified by the exploratory and process-oriented nature of the research questions, which require contextual depth rather than statistical measurement. A detailed justification of the epistemological posture and data collection instruments is presented in Chapter II

5. Structure of the thesis

The thesis is structured as follows: it begins with a general introduction providing the research context and motivation. It follows by three chapters. The first one "Literature Review and Conceptual Framework" presents the theoretical foundation, divided into two sections: a literature review on digital wallets, super apps, Algerian fintech, and Agile-Scrum, and a conceptual framework linking Scrum practices to ecosystem constraints and integration outcomes. The following chapter "Methodology and Field Context" details the methodological framework, where the qualitative case study design, data collection instruments during the Yassir internship, and analysis are presented in the first section, and the second section describes Yassir as an institution and the Algerian financial ecosystem. The third chapter "Case Analysis: Scrum-Driven Integration of Yassir Cash" presents empirical findings on Scrum implementation, regulatory adaptations, and wallet integration. Finally, the conclusion summarizes the main contributions and implications, acknowledges limitations, and suggests future research directions.

CHAPTER I: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter is divided into two main sections:

- The first section presents the literature review, which provides an overview of the existing research on digital wallets, super apps, the Algerian digital payment ecosystem, and the use of Agile and Scrum methods in fintech and regulated environments.
- The second section is to present the main concepts that support this research, starting with product management and product development, then moving to Agile Scrum, and finally to digital wallet integration within a super app and the Algerian fintech context.

Section 01: Literature review

1. Digital wallets: concepts, evolution, and research streams

Originally created as digital versions of physical wallets, digital wallets -also known as e-wallets- were intended to store payment instruments and facilitate online or point-of-sale transactions. A digital wallet is now seen as a secure interface for managing data and digital assets, including payment credentials (such as cards and bank accounts) as well as identity attributes, tickets, and possibly tokenized or distributed-ledger assets (SwissBanking, 2024). Previous research primarily framed them as a convenient interface for card-based payments. With the help of encryption, biometrics, and device-level security, the wallet takes on the role of a service platform that facilitates user interactions with an expanding array of digital services.

According to systematic reviews conducted between 2018 and 2024, research on digital wallets has grown significantly. Researchers have synthesized their findings using structured review frameworks like SPAR-4-SLR and TCCM (theories, contexts, characteristics, and methods) (Paul & Rosado-Serrano, 2019; Abdul-Halim et al., 2021; Mainetti et al., 2023, as cited in "The Next Big Thing in Online Payments"). The adoption motivations (e.g., perceived ease of use, utility, security, enjoyment), usage patterns and behavioral repercussions, technology architectures (NFC, QR, tokenization), and regulatory or trust difficulties are some of the recurring topics in these assessments. More recent research highlights that digital wallets can change spending habits in addition to increasing convenience by examining adverse effects including impulsive spending among frequent wallet users (Underdown & Tamara, 2025).

According to Bezhovski (2016) and Kurniawan, Wahyuni, and Valentina (2019), there are several technical distinctions between digital wallets, including closed-loop versus open-loop, device-resident

versus cloud-based, and consumer versus merchant-centric designs. They can be integrated into larger ecosystems like mobile banking apps or merchant platforms, and they may enable various payment modalities (card-not-present e-commerce, in-store QR/NFC, peer-to-peer transfers) (US Payments Forum, 2018). One important finding from the international literature is that perceived security and interoperability -with banks, other wallets, and merchant systems- are essential for long-term adoption. Users are more likely to trust wallets that offer clear recourse mechanisms and seamlessly integrate with the current financial infrastructure (Awais, Abdul, & Muhammad, 2019; Dudin et al., 2018).

Theoretically, research on digital wallets draws from network externalities, technology acceptance models (TAM, UTAUT), trust and risk theories, and, more recently, sustainability and ESG viewpoints (Kumar et al., 2020; Román-García et al., 2024; Abdul-Halim et al., 2021, as summarized in the SLR). For instance, a recent study conducted in Indonesia reveals that consumer views regarding wallets are greatly influenced by perceived utility and enjoyment. However, attitudes alone cannot account for impulsive behavior, suggesting that more intricate socio-psychological factors are at work (Underdown & Tamara, 2025). Simultaneously, strategic studies emphasize that future wallet design must balance support for unbanked people, gamified financial literacy, and accessibility for non-technical users -especially in areas where wallets might be the first official financial interface (IJISRT, 2024).

All things considered, this line of inquiry presents digital wallets as both technological artifacts and socioeconomic facilitators, with the potential to transform payment practices, financial inclusion, and even more expansive digital identity infrastructures. When analyzing Yassir Cash in the Algerian context, this dual role will be crucial because wallets frequently replace inadequate banking services in emerging markets.

2. **Super apps and wallet-to-super-app trajectories**

According to Kraiwanit et al. (2024) and Grab case material in "Riding the Wave of Super Apps," a super app is a mobile platform that combines several services, such as messaging, payments, mobility, e-commerce, and financial services, into a single application. These services are frequently centered around a digital wallet or payment function. According to studies of WeChat Pay in China and Grab in Southeast Asia, super apps usually start with a solid core use case (such as ride-hailing or social messaging) and add payments and other services after gaining enough users and confidence. In Grab's case, ride-hailing contributed to the company's initial user acquisition; GrabPay was introduced later, in 2016, to facilitate the transition from cash to digital payments and to support a wider range of services.

Because Yape started out as a digital wallet connected to the banking system and later developed into a super app offering bill payments, QR-based merchant payments, small business solutions, and e-commerce features, the Latin-American case of Yape in Peru is especially pertinent (Yape case study). Recent research on Yape explains why customers embrace new services within the super app using brand-extension logic and Synergy Theory (Kraiwanit et al., 2024). Network externalities, system availability, compatibility, complementarity between services, and perceived fit between the wallet and new features all work together to influence readiness to adopt additions like "Yape Compras." This is captured by the idea of service synergy. These enablers greatly boost perceived synergy and, consequently, users' inclination to use the new features, according to empirical findings from a survey of over 200 users. These enablers greatly boost perceived synergy and, consequently, users' inclination to use the new features, according to empirical findings from a survey of over 200 users.

These findings point to several significant problems for Yassir Cash. First, wallet-anchored super apps significantly rely on cross-service synergy rather than just one feature; payments, mobility, delivery, and shopping all complement each other by lowering friction and increasing data-driven personalization. Second, consumer adoption of newly integrated services is influenced by brand trust, perceived compatibility with the original wallet, and a consistent user experience across the ecosystem (Paul et al., 2021; Kraiwanit et al., 2024). Path-dependency is important, third: As demonstrated by Yape's wallet-first strategy, which contrasts with Asian super apps that started with messaging or ride-hailing before adding wallets, Yassir Cash's own trajectory may blend local constraints with global trends.

However, Asia and, to a lesser extent, Latin America continue to dominate the super-app literature. In North Africa, where currency controls, state-dominated banking sectors, and largely "closed" financial ecosystems influence both product design and integration possibilities, there is a dearth of empirical research on super applications (Bougouffa, 2025). A case study of Yassir's super-app strategy and wallet integration in Algeria is made possible by this gap.

3. Digital payments, fintech, and digital entrepreneurship in Algeria

3.1. Digital payments and ecosystem constraints

One of the most thorough scholarly studies of digital payments in Algeria before and during the COVID-19 epidemic can be found in Allali, Guechi, and Berkane (2022). They demonstrate that although digital payments have increased, they are still little in comparison to the nation's potential using a descriptive-

analytical method. Law 18-05 on electronic commerce, which defines licensed digital payment methods and places payment platforms under the control of Algeria Post and the Bank of Algeria, forms the legal foundation of the framework. Finance laws that encourage businesses to accept electronic payments are also included. In terms of institutions, the establishment of the GIE Monétique (Banking Economic Interest Group) in 2014 coordinated security and standards while consolidating interbank card and ATM infrastructure.

Allali et al. discover that despite this advancement, Algerian digital payments are developing slowly, primarily because of:

- insufficient institutional and legal support for developments in digital payments.
- Some areas have inadequate telecom and digital infrastructure.
- a financial system with little account ownership and a strong emphasis on cash.
- a robust informal economy and a long-standing cultural inclination toward money.

Their quantitative study shows that, although they still make up a modest portion of all transactions, online payments and point-of-sale transactions surged significantly after 2016, particularly during the pandemic. Bill payments, telecom services, and certain internet transactions saw the most growth, although ATM cash withdrawals and card-based salary withdrawals continued to be the most common.

They come to the conclusion that Algeria has a lot of promise for fintech and digital payments, but that achieving this potential would require concerted efforts in the areas of technology, law, finance, and culture.

3.2. Instant payments and consumer behaviour

To supplement current macro-level analysis, the recent SIIPS 2024 consumer research in Algeria provides micro-level data on digital payment usage among low-income individuals and small businesses. Algeria is classified by the report as belonging to a "emerging" cluster because, although digital inclusion metrics like internet penetration, 4G coverage, and smartphone ownership are quite high, transaction account ownership (44%) and digital payment usage (34%) are still relatively low. Younger people, urban micro-entrepreneurs, and scholarship holders who receive stipends through bank accounts are more likely to use digital payments, yet the majority of users do so less than three times a month.

The study emphasizes numerous distinct use-case patterns. Although many transactions still require cash, person-to-business payments for household items and salary receipts are the most popular digital payment scenarios. The broad adoption of point-of-sale (POS) systems and card-based apps across digital channels

demonstrates a few card companies' dominance. Barriers to adoption vary by group: micro, small, and medium-sized enterprises (MSMEs) report that many suppliers and customers do not accept digital payments; older users and women face information gaps and cultural constraints; and concerns about fraud, difficulty reversing incorrect transactions, network outages, and insufficient customer support reduce trust among all user groups.

Respondents also saw clear benefits to digital payments, such as simplicity of use, quickness, increased security versus carrying cash, and improved expense tracking. The study recommends that Algeria boost merchant acceptance, simplify onboarding and Know Your Customer (KYC) procedures, reinforce customer recourse mechanisms, and provide dependable digital services ideal for routine, low-value transactions in order to increase digital payment usage.

These findings indicate that user trust, the availability of digital acceptance points, and easily accessible recourse procedures will all have a substantial impact on Yassir Cash's incorporation into a super app platform.

3.3. Fintech, trade, and digital entrepreneurship

Recent research from Algeria looks at fintech as a more comprehensive force behind trade, entrepreneurship, and financial inclusion than just payment volumes. Almi and Awashreh (2025) examine how fintech tools, such as mobile payments, blockchain-based trade finance, and AI-supported risk management, could change Algerian banks' foreign trade procedures. They contend that antiquated infrastructure, complicated procedures, and currency regulations impede present systems, resulting in commercial transactions that are slow, expensive, and opaque. They demonstrate that digital payments and trade platforms can significantly shorten processing times, boost transparency, and assist SMEs through comparative analysis with nations like India, Kenya, the United Arab Emirates, and Brazil as long as Algeria makes infrastructural investments, updates laws, and encourages cooperation between banks and fintechs.

Bougouffa (2025) examines digital payments from an entrepreneurial perspective using Guiddini, an Algerian startup that provides e-invoicing, POS and virtual POS services, e-payment integration, and assistance for freelancers and SMEs. The report places Guiddini in the context of an emerging ecosystem for digital entrepreneurship that is bolstered by programs like the Algeria Startup Challenge. It demonstrates how digital payments can support entrepreneurial endeavors by:

allowing small businesses to accept digital payments remotely and in person without the need for a lot of infrastructure.
providing back-office tools (e-invoicing, dashboards) that improve financial visibility and compliance.
creating fresh business plans based on subscription-based payment services or SaaS.

Bougouffa's analysis does, however, also draw attention to the difficulties this ecosystem faces, such as a still-developing venture capital environment, inadequate internet infrastructure outside of major cities, insufficient financial literacy, and regulatory ambiguity. Other Algerian research on fintech and financial inclusion share these challenges, although they still focus more on policy recommendations and macro-indicators than on firm-level product development processes (Seddiki, 2023; Koudjil, Ouahab, & Bendaoudia, 2024).

When combined, these pieces depict an Algerian environment where fintech and digital payments are strategically significant but structurally limited. They don't explain how a particular actor creates and incorporates a wallet product using agile techniques inside this ecosystem, but they do offer important context for comprehending the environment in which Yassir Cash and the Yassir super app develop. The current thesis fills that gap exactly.

4. Agile and Scrum in software and product development

Agile methods emerged at the beginning of the 2000s as a response to the limitations of heavyweight, plan-driven software development. The Agile Manifesto articulated four core valuesin dividuals and interactions, working software, customer collaboration, and responding to change supported by twelve principles aimed at iterative delivery, close stakeholder collaboration, and adaptability (Beck et al., 2001). Over the past two decades, agile methods such as Scrum, Extreme Programming, Kanban, and SAFe have diffused widely in both software and non-software domains, prompting extensive research on their benefits and limitations (Dingsøyr, Nerur, Balijepally, & Moe, 2012).

Dingsøyr et al. (2012) review the first decade of agile scholarship and highlight a shift from early debates agile vs. plan-driven to more nuanced questions about team dynamics, coordination, test-driven development, distributed teams, and post-adoption challenges. Empirical studies have linked agile practices to improved time-to-market, enhanced team communication, and greater responsiveness to changing requirements, but also caution that agile adoption is highly context-dependent and often hybridised with existing governance structures.

Melo et al. (2013) provide a particularly relevant multiple-case study of agile team productivity in three large Brazilian companies using Scrum and XP. Through thematic analysis of interviews, observations, and retrospective documentation, they propose a conceptual framework for agile team productivity that emphasises:

Intra-team factors such as team design (size, diversity, collocation), staff turnover, and coordination.

Inter-team coordination and dependency management.

Group processes including communication, conflict management, and agile practices.

Their findings suggest that agile productivity is more sensitive to team management and coordination issues than to method "purity". For example, medium staff turnover had strong negative short-term effects despite the presence of agile practices, and inter-team dependencies (e.g., on QA or infrastructure teams) often created bottlenecks that slowed delivery. The study's emphasis on collocation, team diversity, and coordination resonates with the challenges of organising cross-functional teams in a super-app context such as Yassir.

In the Algerian telecom sector, Rania's master thesis (2023) applies agile concepts to Ooredoo Algeria, exploring the relationship between agile project management and customer satisfaction. Her literature review synthesises benefits of agile (flexibility, improved communication, risk reduction, enhanced quality) and identifies critical success factors: top-management commitment, agile mindset, training, and effective communication. Empirically, her quantitative study suggests that customer collaboration and improved quality rather than value-creation rhetoric per seare the main channels through which agile contributes to customer satisfaction in that context.

Overall, the agile literature provides rich insights into the micro-level mechanisms of team productivity, coordination, and customer satisfaction. Yet, as the next section shows, the application of Scrum and agile methods in fintech and highly regulated environments introduces additional constraints that the Yassir Cash case must take into account.

5. Agile and Scrum in fintech and regulated environments

A growing body of work addresses the tension between agile's emphasis on flexibility and the stringent demands of regulatory compliance, risk management, and auditability in financial services. Studies and practitioner reports on banks and fintech organisations suggest that agile can be reconciled with regulatory programmes, but only through explicit adaptations in process design, documentation, and governance (PwC, 2021; AlBabtain, 2024).

PwC's report on "Running agile in a regulatory programme" argues that banks typically associate control with traditional waterfall approaches, given their linear planning, predictable milestones, and heavy documentation. Agile approaches, in contrast, may be perceived as undermining control due to their speed, autonomy, and iterative nature. The report proposes a hybrid approach in which agile teams operate within a compliance-aware framework: risk and control requirements are articulated as backlog items, sprints incorporate formal checkpoints, and documentation and sign-offs are integrated into the Definition of Done and release criteria.

A more formal treatment is offered by a systematic approach to agile development in highly regulated environments published in 2020, which introduces compliance and quality-risk dimensions that can be overlaid on Scrum or Kanban teams (Hatzinger et al., 2020). The approach scales from small teams to subsidiaries and emphasises that agile artefacts (stories, increments, test evidence) must be explicitly traceable to regulatory requirements and risk controls. This work underscores that agile adoption in finance is less about abandoning documentation and more about integrating incremental, risk-based compliance into the iterative cycle.

AlBabtain's (2024) literature review on agile project management in fintech suggests that Scrum is widely used but often embedded in hybrid delivery models that combine agile at the team level with more traditional governance at programme or portfolio levels. She notes that discrete-event simulation is increasingly used to model and optimise Scrum workflows in fintech, indicating a trend toward quantitatively analysing agile processes under constraints of speed, innovation, and compliance.

Despite this emerging literature, empirical case studies of agile product development in fintech in the Maghreb or broader MENA region remain scarce. Most examples come from European or Asian banks, where regulatory and infrastructural conditions differ significantly from those in Algeria (PwC, 2021; Hatzinger et al., 2020). Existing Algerian work on fintech focuses on macro-level adoption and policy (Allali et al., 2022; Almi & Awashreh, 2025; Koudjil et al., 2024), rather than on how local firms structure agile processes internally. This again highlights the originality of an in-depth case study of how Yassir uses and adapts Scrum to build and integrate Yassir Cash.

6. Critical Analysis and identified gaps

The The literature reviewed across the preceding sections reveals not only what is known about digital wallets, super apps, the Algerian fintech ecosystem, and Agile Scrum, but also where existing knowledge

is limited, contested, or geographically bounded in ways that directly affect the analytical value of applying it to the Yassir Cash case.

A first critical observation concerns the adoption models used in digital wallet research. The dominant frameworks, TAM and UTAUT, were developed and validated primarily in technologically mature, high-trust environments. Hassan and Shukur (2019) and Awais et al. (2019) both identify perceived security and ease of use as primary adoption drivers, findings broadly consistent with Bezhovski (2016) and Kurniawan et al. (2019). However, Underdown and Tamara (2025) introduce hedonic motivations such as enjoyment as significant predictors, suggesting that the functional-utilitarian framing of earlier models is incomplete. More critically, none of these frameworks was tested in a context where distrust of digital systems is culturally entrenched, formal banking penetration is low, and agent networks substitute for institutional infrastructure, all of which characterize Algeria. Applying these models to the Algerian context therefore requires careful qualification, as the variables that drive adoption in Indonesia or Malaysia may not translate to a market where cash dominance reflects structural exclusion rather than individual preference.

A second tension emerges between the super app literature and the Algerian regulatory environment. Kraiwanit et al. (2024), drawing on the Yape case in Peru, propose service synergy as the mechanism through which users adopt new features within super apps. Van der Vlist et al. (2024) further theorize super-appification as a platform conglomeration strategy enabled by network externalities and cross-service integration. Both frameworks assume a degree of regulatory openness and interoperability that does not yet exist in Algeria, where currency controls, the dominance of state-owned banks, and an underdeveloped merchant acceptance network structurally constrain the conditions under which synergy effects can materialize. The super app literature is therefore analytically useful as an aspirational benchmark but insufficient as a direct explanatory framework for the Yassir case.

A third and more fundamental gap concerns the relationship between Agile methodology and regulated fintech environments. Dingsøyr et al. (2012) and Melo et al. (2013) provide the most empirically grounded accounts of agile team dynamics, but their findings are drawn from software development firms in Western and Brazilian contexts where regulatory compliance is a peripheral rather than a primary constraint. PwC (2021) and Hatzinger et al. (2020) address regulated environments more directly, proposing compliance integration into sprint artifacts, but both accounts are practitioner-oriented and derived from European banking institutions operating under stable, well-published regulatory frameworks. Neither addresses the specific challenge of building a fintech product in a context where regulatory directives are unpublished, arrive mid-sprint, and can override existing commitments entirely. This gap is

not merely geographical but methodological: the existing literature lacks empirical case studies that document how Agile teams absorb regulatory uncertainty as a continuous operational condition rather than a fixed compliance checklist.

Taken together, these critical observations define the analytical contribution of this thesis. Rather than applying existing frameworks wholesale, this research uses them as reference points against which the Yassir Cash case is examined, with deviations treated as findings in themselves. The intersection of Agile Scrum practice, super app integration logic, and constrained emerging market regulation remains, to the best of the researcher's knowledge, empirically unexamined in the North African context. This thesis addresses that gap through a process-level qualitative case study grounded in direct organizational access.

Section 02: Conceptual framework

1. Product Management

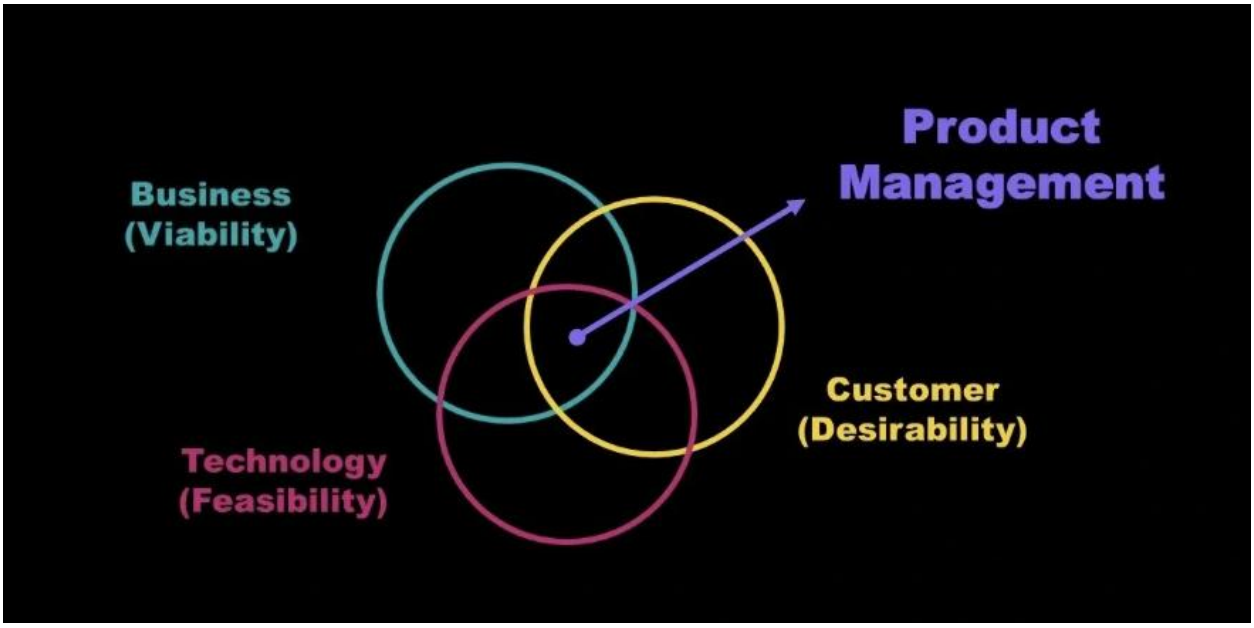
Whether an organization operates in consumer technology, telecommunications, or digital financial services, product management plays a critical role in determining how products are built, prioritized, and evolved in response to market and user demands (Sutticherchart & Rakthin, 2023). Understanding what product management is and how it differs from adjacent organizational disciplines forms the theoretical starting point of this research.

1.1. Definition of Product management:

Product Management is an interdisciplinary practice which oversees the full life cycle of the product, including its conception, development, launch, and continuous improvements, balancing the technological process with customer needs and corporate objectives (Sutticherchart & Rakthin, 2023). From a professional standpoint, it involves setting the strategic direction for the product, keeping the road map and overseeing the development backlog as the main tool for connecting the strategy with implementation (Pichler, 2016).

The discipline is completely different from project management. Project management is a temporary structure with defined time, cost and scope constraints (Project Management Institute, 2017). Product management is an ongoing process, and the responsibility of the product manager is throughout the whole product life cycle, constantly rethinking what should be built based on user feedback and market conditions (Sutticherchart & Rakthin, 2023). A popular model places product management at the intersection of Business viability, Technology feasibility, and User Experience desirability (Eriksson, 2011), and the discipline must balance all three domains simultaneously.

Figure 1: The Product Management Intersection: Business Viability, Technology Feasibility, and User Experience Desirability



Source: Next Gen Product Leaders, https://nextgenproductleaders.com/what-is-product

The figure illustrates product management as occupying the central intersection of three overlapping circles representing Business, Technology, and User Experience. It conveys that the discipline requires the simultaneous satisfaction of commercial viability, engineering feasibility, and user desirability, and that the absence of any one domain produces a product that fails to fulfill its full purpose.

1.2. Product Development

Product development refers to the process whereby a well-validated product idea is continually developed until it becomes an actual product capable of solving the user's problem. It is important to know about the structure of the product development process, its phases, and the outputs it generates before discussing the Agile framework through which all these processes will be achieved.

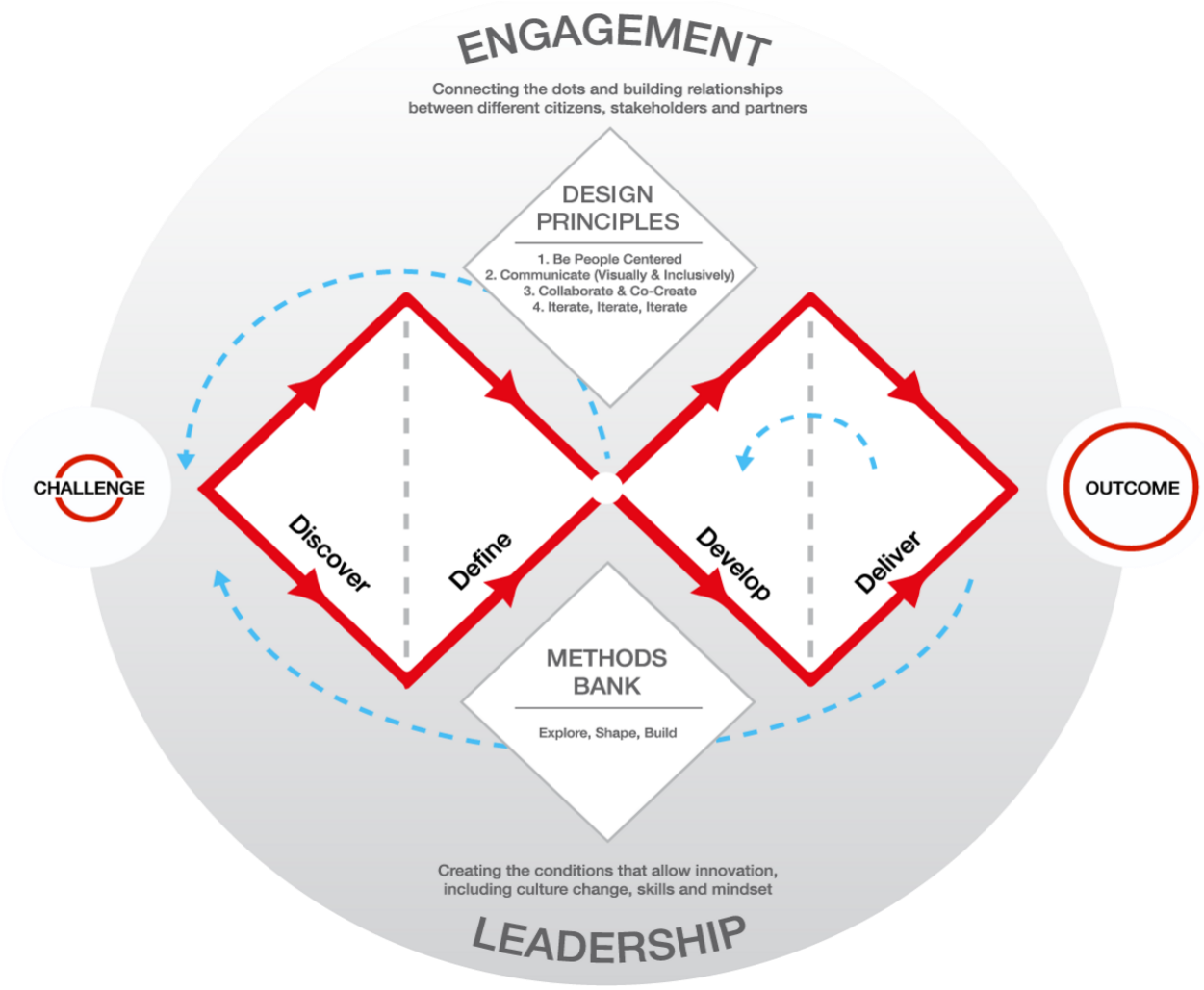
1.3. The Product Development Lifecycle

A product development lifecycle illustrates the steps taken by a product team to get a product from problem identification to release. One model used in this regard is the Double Diamond Model which is proposed by the Design Council (2005). It involves four phases of a product development journey; Discover, Define, Develop, and Deliver. At each stage of this model, either of two types of thinking, namely divergent and convergent, are involved in order to identify and solve the problem. This model is

flexible regarding method but identifies the essential steps a product team needs to take to develop a solution (Design Council, 2005).

The phases in the Double Diamond Model are not sequential. For instance, discovery and definition tasks keep recurring during development due to the evolving nature of both users' understanding and technology. What it offers, however, is common language for the whole team, through which they can be aware of what is going on at every stage of development.

Figure 2: The Double Diamond Product Development Model



Source: Design Council (2005)

Figure 2 shows the Double Diamond model in the form of two sequential diamonds, which symbolize the problem space and the solution space, respectively. Both diamonds depict the process of divergence and convergence, which involves broadening and narrowing, respectively. This means that product design needs to be preceded by proper problem definition.

1.4. Key Product Artifacts

The product development process consists of some artifacts that help to coordinate activities among team members and facilitate information exchange. There are three main types of artifacts used by Agile teams: Product Requirements Document, user story, and Minimum Viable Product.

1.4.1. Product Requirements Document (PRD)

The Product Requirements Document is a collection of validated requirements of users and organization. It consists of functional requirements of the product, technical restrictions and acceptance criteria. This document serves as a source of knowledge for development teams about the required functionality of the product (Pichler, 2016). However, unlike in other approaches, Agile companies do not have a static and predefined PRD. It is rather a living artifact, as requirements may be updated after each sprint depending on gained insights (Pichler, 2016).

1.4.2. User Stories

A user story is a light-weighted definition of a feature described from the end-user's point of view based on the template "As a [user type], I want [capability] so that [benefit]" (Cohn, 2004). Its primary function is twofold: the preservation of the perspective of the user as the principal viewpoint, as well as serving as the unit of work used in backlog prioritization. In contrast to technical specifications, user stories describe the expected result from the user's side without describing the method of achieving it, thus leaving this decision to the engineers (Cohn, 2004).

Among all the other elements of the Agile approach, user stories are the most studied objects, and their poor quality has an impact on the sprint's effectiveness, improperly formulated and not fully polished user stories have been recognized as one of the most common anti-patterns within Scrum methodology (Wróbel et al., 2023, cited in Nikiforova et al., 2025).

1.4.3. Minimum Viable Product (MVP)

The Minimum Viable Product refers to the state of the product at which the team can extract as much learning as possible with the least amount of effort put into developing the product (Ries, 2011). It is important to note that an MVP is not a prototype but a deployable product with its minimalist nature deliberately being part of the decision -making process of prioritizing learning over functionality.

An MVP works in the context of Build-Measure-Learn cycle: build minimally, measure actual customer usage, learn and repeat (Ries, 2011; Blank, 2013).

Having outlined the product development lifecycle and its key artifacts, the following section examines the methodology through which these activities are organized and executed, namely the Agile methodology.

2. Agile Methodology

"Facilitating change is more effective than attempting to prevent it. Learn to trust in your ability to respond to unpredictable events; it is more important than trusting in your ability to plan for disaster." (Fowler & Highsmith, 2001)

This statement, drawn from the foundational thinking behind the Agile Manifesto, captures the core philosophical shift that Agile introduced to software and product development, a shift whose relevance to the subject of this research is examined throughout this section.

2.1. The Concept of Agility

In February 2001, 17 software developers met at the Snowbird ski resort in Utah, fed up with the heavyweight, documentation-heavy processes that dominated software development at the time (Beck et al., 2001). The Agile Manifesto, a short but important document that moved the discipline away from rigid planning and towards people, collaboration and adaptability (Beck et al., 2001), was produced at the meeting. The tone was set by the opening sentence: “We are uncovering better ways of developing software by doing it and helping others do it.”

The Manifesto specified four core values (Beck et al., 2001):

- Individuals and interactions over processes and tools
- Working software over complete documentation
- Customer collaboration instead of contract negotiations
- Responding to change versus following a plan

These values were supported by twelve principles including continuous delivery, willingness to change requirements, sustainable work pace and regular reflection on team performance (Beck et al., 2001).

Agile has since been widely adopted outside of software into project management, organizational design and product development practice (Noteboom et al., 2021; Tena Zuzek, 2020). In the context of products, it describes an iterative, feedback-driven approach where direction is constantly adjusted in response to actual user data and market conditions, rather than being fixed by an upfront plan. Organizational agility, the ability to sense and respond to change faster than the environment, has become a strategic goal in itself, especially in sectors where conditions change too quickly for long-range planning to stay effective (Eilers et al., 2022).

2.2. Agile Frameworks

There are various Agile frameworks, each with distinct characteristics in terms of team structure, sprint duration, and development approach. Understanding the differences among the most widely used frameworks provides context for evaluating their respective suitability across different product and organizational environments.

Table 1: Most Known Agile Frameworks

Framework	Key Features
Scrum	Fixed-duration sprints (1 to 4 weeks); roles: Product Owner, Scrum Master, Development Team; sprint goal defined at Sprint Planning
Kanban	Work visualized on a board; limits work in progress; no timeboxed cycles, work flows continuously as capacity allows
XP (Extreme Programming)	Focuses on code quality through pair programming and test-driven development; sprints of 1 to 3 weeks; unit, integration, and acceptance testing
SAFe (Scaled Agile Framework)	Scales Agile for large enterprises; combines Agile and Lean principles across multiple team levels

Source: made by the researcher, based on Al-Saqqa, Sawalha & AbdelNabi (2020); Asma Akhtar (2022); Schwaber & Sutherland (2020); Almeida & Espinheira (2021)

The table above shows the four most referenced Agile frameworks and the wide variety of structural approaches product teams can take. All frameworks tackle the same central problem, organizing iterative development work, but they use different mechanisms for time-boxing, role definition and workflow management. Of these, Scrum is the most widely used framework in the world, with 87% of Agile practitioners using it (State of Agile Report, 2022). This is because it strikes a balance between structural clarity and adaptability depending on team size and product context.

2.3. Scrum model

Scrum is a light framework that helps teams deliver value through the development of adaptive solutions for complex problems (Schwaber & Sutherland, 2020). Rather than detailed upfront planning, it breaks work down into small chunks of fixed length, called sprints, during which a team plans, builds, inspects

and adapts. The framework is based on three empirical pillars. These are transparency, inspection, and adaptation. Transparency means that all parts of the process are visible to all the participants. Inspection means that the progress is inspected regularly to determine any undesirable variances. Adaptation means that the team must adjust its behavior whenever inspection reveals a deviation from the desired outcome (Schwaber & Sutherland, 2020). These pillars are not procedural formalities; they are the conditions that make iterative development trustworthy enough to substitute upfront planning. Studies in the financial services sector indicate that stakeholder satisfaction and project success rates are significantly higher for teams that are Agile and adhere to the pillars consistently compared to teams operating within traditional frameworks (Serrador & Pinto, 2020, cited in Kaur, 2025).

2.4. Scrum Role

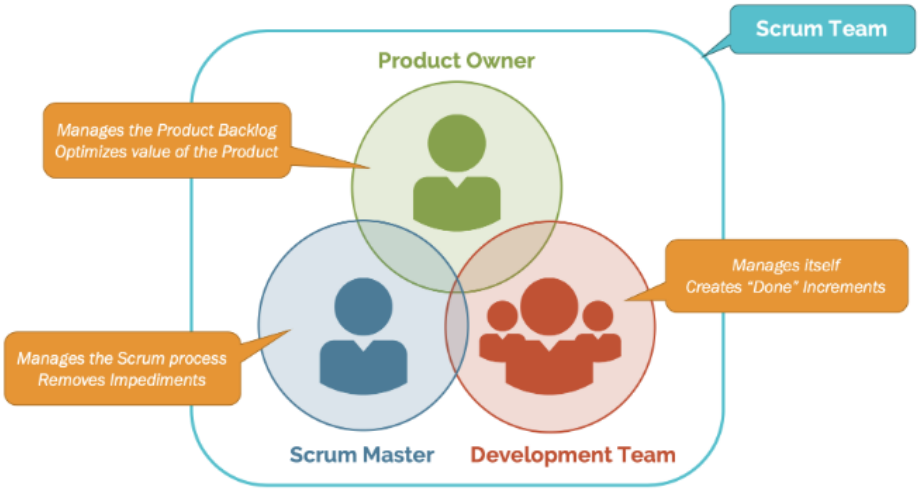
The fundamental unit of Scrum is a small, cross-functional team of no more than ten people, organized around three accountabilities (Schwaber & Sutherland, 2020). It doesn't have any hierarchy or sub teams.

The goal of the Product Owner is to maximize product value. And it is achieved by: Developing and sharing the Product Goal Planning and ordering the Product Backlog Ensuring the team is always working on the most valuable things for the users and the business. The Product Owner is one person, not a committee, and his decisions must be respected by all the organization (Schwaber & Sutherland, 2020).

The Scrum Master is a facilitator and servant leader for the team and the larger organization. They coach team members on self-management, remove impediments to progress, ensure all Scrum events occur and are positive, and help the organization understand and adopt Scrum principles (Schwaber & Sutherland, 2020). In regulated environments, the Scrum Master has a particularly important role in safeguarding the team’s delivery speed from external demands of compliance (Kaur, 2025).

The Developers are the people who build the usable product increment each sprint. They develop their own plan and stick to the Definition of Done and hold themselves accountable as professionals (Schwaber & Sutherland, 2020). In addition to the core team, the process includes external stakeholders (e.g., users, sponsors and regulatory bodies) that primarily communicate via the Product Owner, who translates their needs into ordered backlog priorities (Loiroa et al., 2019).

Figure 3: Agile/Scrum Team Roles



Source: *Schwaber & Sutherland (2020) Scrum.org*

The diagram depicts the three core Scrum roles, Product Owner, Scrum Master and Developers, in a shared sprint cycle. It highlights their distinct roles: value prioritization, facilitation and iterative delivery. Scrum teams are different from traditional project organization in their non-hierarchical, collaborative structure.

2.5. Scrum Events and Sprint Lifecycle

The work of Scrum is performed in the Sprint. The Sprint is a time-box of one month or less in which all the other Scrum events occur (Schwaber & Sutherland, 2020). The next sprint begins immediately after the previous sprint ends. This creates a rhythm of planning, delivery and review.

Every sprint is organized around four formal events:

- Sprint Planning: The Scrum Team jointly defines the Sprint Goal, selects Product Backlog items for delivery, and plans the work. The Sprint Goal is created before the Sprint Planning ends, and it is the only reason the Sprint exists.

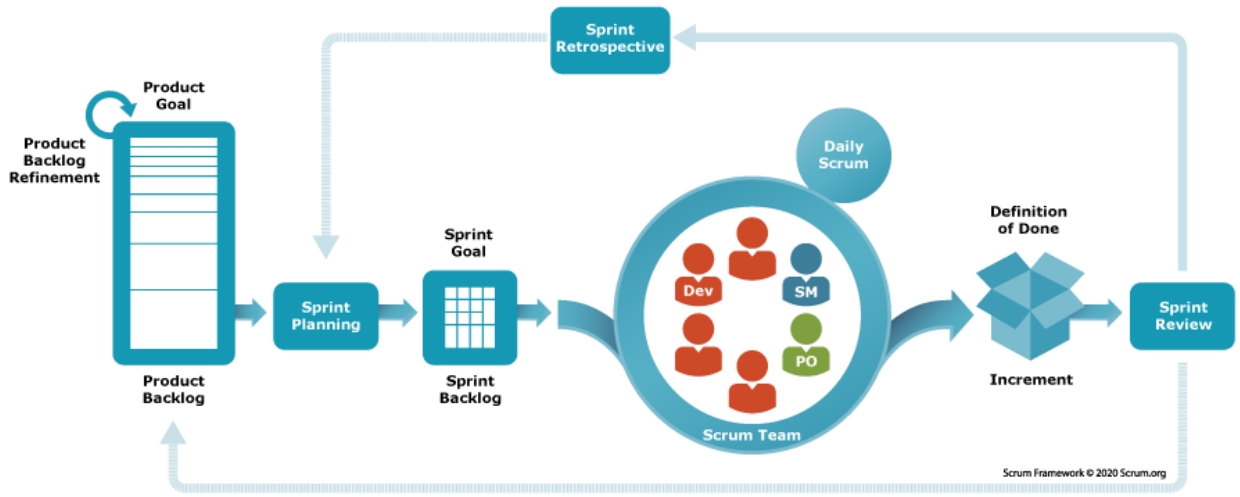
- Daily Scrum: A 15-minute time-boxed event for the Developers of the Scrum Team to synchronize activities and create a plan for the next 24 hours. It helps communication and reduces the need for other coordination meetings.

- Sprint Review: The team shows the completed Increment to the stakeholders, talks about what was done, and together decides what to do next. It is a working session, not a formal presentation (Schwaber & Sutherland, 2020)

- Sprint Retrospective : The team looks back on how it worked during the sprint, what worked well and what should change and commits to process improvements for the next cycle.

Together these four events operationalize the empirical pillars of transparency, inspection and adaptation for each sprint cycle.

Figure 4: The Scrum Process



Source: Schwaber & Sutherland (2020), Scrum.org

Figure shows Scrum framework as continuous sprint cycle. It is from the Product Backlog and goes through Sprint Planning then Sprint execution with Daily Scrum and Sprint Review and Sprint Retrospective and then to the next cycle. Each sprint results in a potentially releasable increment of the product. This is the self-perpetuating nature of Scrum, where each iteration produces learnings that directly feed into the next round of planning.

2.6. Artifacts, Commitments and Values of Scrum

Scrum artifacts provide transparency of work and common reference points for the team. Each artifact is a promise that helps with transparency and helps to track progress (Schwaber & Sutherland, 2020).

The Product Backlog is an ordered list of everything known to be needed for the product. The team has agreed on the Product Goal, which is a description of the future state of the product that the team plans to achieve. The Sprint Backlog is the set of Product Backlog items selected for the Sprint, plus a plan for delivering them. It is owned by the developers and updated throughout the sprint. The Increment is the working product which is verified and is based on all previous increments. It is the tangible result of each Sprint. Its commitment is the Definition of Done, a formal description of quality criteria that an item must meet before it can be considered part of the Increment (Schwaber & Sutherland, 2020). For regulated products the Definition of Done might include functional and technical criteria, but also compliance conditions, audit trail requirements and security validation thresholds .

These artifacts are of direct interest for the empirical investigation of this thesis. The analytical reference points used in Chapter 3 are the Product Backlog, Sprint Backlog, Definition of Done and Increment, which are all observable artifacts in the Yassir Cash development process.

Besides artifacts, Scrum is also underpinned by five values: commitment to common goals, focus on the sprint work, transparency of progress and problems, respect for each other, and the courage to report impediments and change course as needed (Schwaber & Sutherland, 2020). In practice, the empirical pillars of the framework are easier to maintain when these values are present. On the other hand, missing artifacts often lead to anti-patterns such as: insufficient user story refinement, defined but not followed sprint goals, and retrospectives that don't result in meaningful change. According to Wróbel et al. (2023), these were the most common anti-patterns in Scrum organizations.

2.7. Scrum in Regulated and Multi-Team Environments

One of the main questions posed in this thesis is how Scrum behaves when the product being constructed is under external regulatory constraints. This structural tension for financial institutions is between the speed and flexibility demanded by Agile and the compliance obligations of regulated environments (Kaur, 2025; Schwarzbach et al., 2025).

In practice, the answer has not been to abandon Scrum but to adapt it: compliance functions are integrated into agile ceremonies, risk officers are invited to sprint reviews, and the Definition of Done is expanded to include regulatory checkpoints (Kaur, 2025). Rather than a gate at the end of development, these adaptations build compliance as a continuous part of the sprint cycle itself.

Many products require more than one Scrum Team. If different squads are working on different parts of the same product, coordination mechanisms are required: a shared Product Backlog, a single Product Owner to manage it, cross-team sync meetings and a common Definition of Done across all teams (Schwaber & Sutherland, 2020).

When these structures are absent or informal, dependencies are discovered late and local decisions made

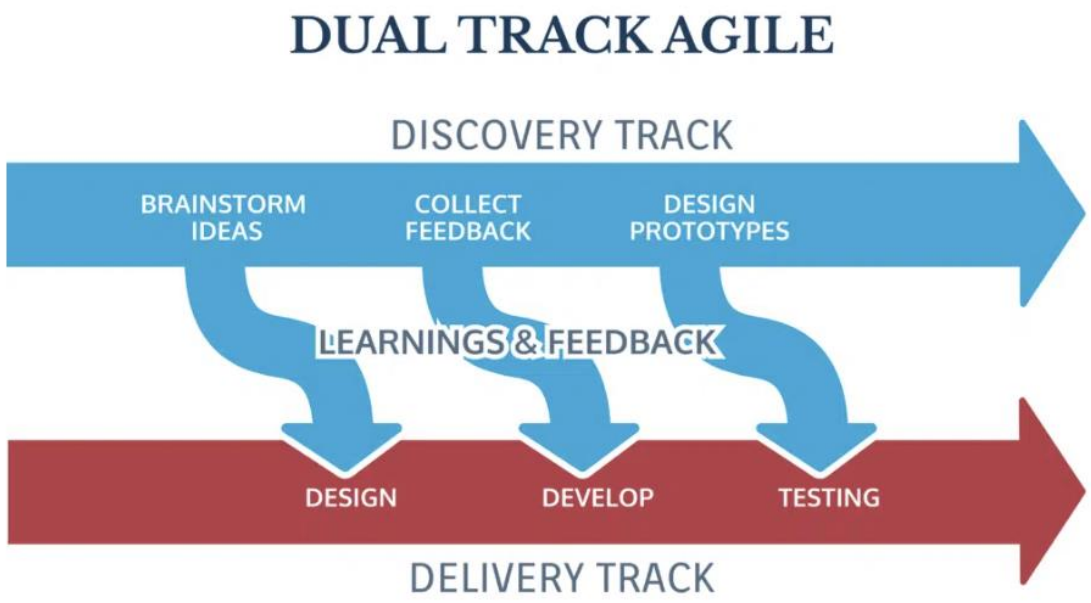
in one team cause inconsistencies in another. It is a multi team dynamic that applies also to the Yassir Cash case with the Core and Mobile squads sharing a sprint calendar with different levels of formal coordination.

2.8. Dual-Track Agile

Dual-Track Agile is a product development model that runs two parallel streams of work within the same team structure (Cagan, 2017). The Discovery track is led by the product manager and design team who conduct user research, prototyping, and hypothesis testing to identify future opportunities. The process creates a pipeline of validated problems that are ready for engineering. The Delivery track is governed by the development team, which runs sprint cycles on features already validated by the Discovery track. The model separates the cost of learning from the cost of building: ideas are tested cheaply in Discovery before any engineering investment is committed in Delivery (Cagan, 2017).

This parallel structure is especially pertinent in platforms catering to multiple users with diverging needs. The Discovery track lets the product manager explore each user group in parallel without blocking the delivery team. The quality of what flows from Discovery into the Delivery backlog directly determines whether engineering effort is spent on features users will actually adopt.

Figure 5: Dual-Track Agile Model



Source:Adapted from ProdPad (n.d.). Dual-track agile. https://www.prodpad.com/glossary/dual-track-agile/

The figure illustrates the Dual-Track Agile model as two parallel work streams, Discovery and Delivery, running concurrently within the same sprint cycle. Validated outputs from the Discovery track feed continuously into the Delivery backlog, ensuring that engineering effort is directed only toward features whose user value has already been confirmed.

3. Digital Wallet Integration in a Super App

The integration of a digital wallet within a super app is the applied concept that directly defines the product at the center of this research. Understanding the super app as a platform model and the digital wallet as a distinct financial instrument -each with its own architecture, adoption logic, and enabling mechanisms- provides the applied conceptual foundation for the analysis conducted in the following chapters.

3.1. The Super App

A super app is "a mobile application with a wide set of seemingly unrelated services built onto a core functionality, creating an immersive and unified experience for everyday activities" (van der Vlist et al., 2024). The super app was first envisioned in 2010 by BlackBerry founder Mike Lazaridis, and has since become a market reality across Asia, Africa and Latin America. It is not about the quality of each service, but the degree to which all services are integrated into one platform.

Super apps were most firmly rooted in the Global South, where mobile internet surpassed fixed-line infrastructure, a sizable portion of the population was still unbanked, and no major incumbent controlled a variety of service verticals (van der Vlist et al., 2024). This structural opening is exemplified by WeChat, Gojek and Grab, demonstrating the convergence of ride-hailing, messaging and financial services within single platforms, a process van der Vlist et al. (2024) call super-appification. The authors examined 41 super apps worldwide and distinguished four types of constellations with different degrees of integration and combination.

Table 2: Super App Constellation Types

Type	Description	Example

Swiss-Army Knife	Multiple services across industries in a single app interface, combining first-party services with third-party partnerships	WeChat, Grab
Family	A cohesive ecosystem of distinct applications owned by the same holding company, expanding through subsidiaries and acquisitions	Alibaba Group
Host	An internal mini-app ecosystem where third-party developers build lightweight apps running within the host application	WeChat Mini Programs
Hub	An external developer ecosystem connected through publicly available APIs and SDKs	Gojek, Grab (open API ecosystem)

Source: made by the researcher, based on van der Vlist et al. (2024)

The table presents the four super-app constellation types identified by van der Vlist et al. (2024), illustrating how platforms differ in where and how integration occurs. Most super apps belong to multiple types simultaneously, reflecting the layered nature of platform conglomeration strategies

3.2. The Digital Wallet

Digital wallet is an electronic system that stores payment credentials and allows the exchange of value between users, merchants, and providers of financial services via a mobile or web-based interface (Hassan & Shukur, 2019). Its value is essentially relational: a wallet that is not accepted by any merchant or that cannot be replenished by any agent has little utility, however feature-rich it might be.

Main architectural difference is between open and closed loop configurations. An open-loop wallet connects to standard banking rails and interoperable networks, enabling transactions with any participating merchant or institution (Libaque-Saenz et al., 2024). A closed-loop wallet is exclusive to one platform ecosystem and its utility is determined by the density of its internal user base. This choice is not a design preference but a function of the regulatory and infrastructural environment within which the platform operates (Libaque-Saenz et al., 2024).

Table 3: Open-Loop vs. Closed-Loop Wallets

Parameter	Open-Loop Wallet	Closed-Loop Wallet
Interoperability	Across any participating merchant or institution	Within the platform ecosystem only
Network effects	Stronger, driven by external network density	Limited to internal user base
User utility	High, broad acceptance	Dependent on platform transaction volume
Strategic use	Long-term goal for financial inclusion	Entry-level in constrained markets
Example	Visa, national interbank systems	Closed-contract platform wallets

Source: *made by the researcher, based on Libaque-Saenz et al. (2024)*

The table highlights that the choice between architectures reflects the regulatory and infrastructural environment of the platform, with open-loop representing the long-term strategic objective and closed-loop serving as a constrained entry-level configuration.

3.3. The Agent Network as an Enabling Mechanism

In markets with underdeveloped digital payment infrastructures, the agent network is one of the main ways platforms provide wallet access to users. An agent is an authorized third-party individual or business that performs cash-in and cash-out transactions for the platform, bridging the gap between a digital payment system and a cash-dominant population (GSMA, 2023).

The most studied case is M-PESA in Kenya, where more than 100,000 agents enabled rapid financial inclusion in a market with low banking penetration. This demonstrated that agent channels can drive adoption at scale in places where formal banking infrastructure cannot reach (Jack & Suri, 2011). In markets with low penetration of cards and limited density of ATMs the agent network seems to be the critical last mile infrastructure through which digital wallets reach the adoption density needed to generate

meaningful network effects (GSMA, 2023).

The preceding sections have established the four conceptual pillars on which this research is built: the organizational and strategic function of product management, the phases and artifacts of the product development lifecycle, the Agile-Scrum methodology and its structural characteristics, and the platform logic of digital wallet integration within a super app ecosystem. The following chapter presents the methodological framework through which these concepts are operationalized in the empirical investigation of this case study.

Conclusion

This chapter presented the theoretical and conceptual foundations of the research.

The literature review briefly showed that digital wallets are no longer only payment tools, but also platforms that support financial inclusion and broader digital services. It also highlighted the rise of super apps, especially in markets where wallets are embedded into larger ecosystems, and it reviewed the Algerian context, where digital payment adoption remains limited despite growing infrastructure. In addition, the chapter showed that Agile and Scrum have been widely studied as adaptive methods, but their use in regulated fintech environments still requires adjustment.

The conceptual framework then brought these ideas together around product management, the product development lifecycle, Scrum, and digital wallet integration within a super app. These elements provide the basis for analyzing the Yassir Cash case in the next chapter.

CHAPTER II: METHODOLOGICAL FRAMEWORK AND HOST ORGANIZATION

This chapter presents the methodological framework adopted in this study and the organizational context within which the research was conducted.

- The first section justifies the epistemological posture, research design, data collection instruments, and analytical approach used to investigate how Agile-Scrum was applied in the development of Yassir Cash.
- The second section introduces Yassir as the host organization, its strategic positioning as a super app, and Yassir Cash as the fintech product at the center of this investigation.

SECTION 01: RESEARCH APPROACH AND DATA COLLECTION

1. Epistemological Posture

1.1. Defining Epistemology and the Two Dominant Paradigms

Epistemology is the study of knowledge and the conditions under which it is valid. Saunders et al. (2019) defines it as "a branch of philosophy that studies the nature of knowledge and what constitutes acceptable knowledge in a field of study". Creswell and Creswell (2018) defines it as the position of the researcher on whether to separate themselves from a phenomenon as a neutral observer, or to engage with the phenomenon as an active interpreter. Two paradigms dominate management research: positivism, which assumes that reality is objective and measurable and knowledge is produced through hypothesis testing (Saunders et al., 2019) and interpretivism, which views social phenomena as carrying meanings that need to be understood from within their context rather than being reduced to variables (Creswell & Creswell, 2018). The principal distinctions are listed in Table 3.

Table 4: Positivism vs. Interpretivism

Parameter	Positivism	Interpretivism
Nature of reality	Objective, single, measurable	Subjective, multiple, socially constructed

Researcher role	Detached, neutral observer	Engaged, reflective participant
Research goal	Explanation and prediction	Understanding and interpretation
Methodology	Quantitative	Qualitative
Data type	Numbers, statistics	Words, narratives, meanings
Generalizability	High (statistical)	Transferable (contextual)
Typical methods	Surveys, experiments	Interviews, case studies, observation

Source: made by the researcher, based on Saunders, Lewis & Thornhill (2019); Creswell & Creswell (2018)

1.2. Justification of the Interpretivist Posture

This study adopts an interpretivist position for four reasons.

- The research question asks how Agile-Scrum was applied, a process-oriented framing that requires understanding meaning instead of measuring causal relationships.
- The phenomenon, Agile adoption within a regulated fintech product, is of a social nature and cannot be reduced to quantifiable indicators without losing its analytical substance .
- The Algerian fintech context is under-researched, lacking a quantitative baseline against which hypotheses could be tested, thereby requiring an inductive approach.
- The embedded position of the researcher in the Yassir Product Management team provided direct access to lived team practices, a kind of proximity that calls for contextual sensitivity rather than detachment.

The following section examines the methodological approach that stems from this commitment.

2. Methodological Approach

Methodology is the particular research design that puts into operation an epistemological stance. Methodology encompasses all decisions, from general philosophical assumptions to concrete instruments of data collection and analysis.

2.1. Qualitative Approach

This study is a qualitative approach. The research question is framed as a process: how a methodology was applied, a process-orientated framing that requires rich contextual data rather than statistical measurement. It's about human decisions, about team dynamics, about regulatory negotiations which have meaning only in their organizational context, and that meaning can't be captured in numbers. The study is exploratory and not hypothesis-testing. There is no previous quantitative research on Agile in the fintech sector in Algeria. An inductive approach is the only possible starting point.

2.2. Case Study Design

The study will be conducted as a single embedded case study. It is single because the primary unit of analysis is Yassir Cash: one product, one team, one development cycle. It is embedded because the case consists of multiple sub-units examined within it fintech Product Managers, engineers, QA engineers, internal documents, and field observations. This design is appropriate for 'how' questions where the aim is analytical transferability and not statistical generalization.

Yassir Cash was selected for four reasons: it is the first regulated digital wallet within a super app to be launched in Algeria, making it a unique and revelatory case; it has clear organizational, temporal and product-scope boundaries; the researcher had direct access to internal documents, ceremonies and team members as an embedded intern; and the product is still being actively worked on, with new features, market expansions and regulatory adaptations being integrated on an ongoing basis. This constant drive for improvement makes it a particularly rich case for studying how Agile-Scrum operates not just at launch but as an ongoing product development practice under real operational and regulatory conditions

3. Data Collection Instruments

Three complementary instruments were used: documentary analysis, semi-structured interviews and direct observation. The main validity strategy of this study is triangulation of these.

3.1. Documentary Study

Documentary analysis is the systematic review of documents as evidence, valuable for its record of decisions and practices independent of recall. The corpus is based on two types of sources: published academic literature for the theoretical framework and internal Yassir documents as primary empirical evidence.

For the theoretical framework, academic articles sourced from Google Scholar, Science Direct, Elsevier, ResearchGate, Emerald, and Springer were used alongside key books and the official Scrum Guide (Schwaber & Sutherland, 2020).

For the organizational context and empirical findings, we had access to internal Yassir documents, including the company presentation, the FS Yassir Cash Feature Playbook, the sprint roadmap, the wallet integration document, the onboarding PRD, KYC user stories, user flow diagrams, and a transaction receipt. These were complemented by three regulatory texts: Regulation No. 25-02, Regulation No. 24-04, and the Algerian Monetary and Banking Law, which documented the legal constraints directly shaping product and sprint decisions.

3.2. Semi-Structured Interviews

Semi-structured interviews were chosen as the main method of data collection as this allows me to have a consistent set of themes for all participants to discuss, yet allows for unexpected answers to be probed upon when they occur.

This balance of structure and flexibility is especially well-suited for a phenomenon as complex as Agile adoption in a regulated product team, where each role has a different view of the same process.

The interview guide was organized into three thematic sections: Agile-Scrum in practice (team structure, sprint cycles, backlog management, tooling, and Definition of Done); discovery and delivery dynamics (feature lifecycle, PRD ownership, user research, and dual-track alignment); and constraints, gaps, and retrospective improvement (regulatory impact on sprints, coordination gaps, integration challenges, and what the team would change in hindsight). All the interviews were in English and lasted 30 to 45 minutes. They were audio-recorded with the verbal consent of each participant. I transcribed all of the data. Informal conversations during the internship were not recorded, but written down as field notes right after. Each participant is assigned an anonymized code throughout this thesis and no name is used in any analytical chapter.

3.3. Participant Selection

The six participants were chosen because of their direct involvement in the development of Yassir Cash:

Two fintech Product Managers have been identified as the primary Agile decision-makers, responsible for sprint planning, backlog prioritization and translation of regulatory requirements into product scope.

One QA engineer was picked because QA is the last gate of validation before a feature reaches the users, a perspective on acceptance criteria and product quality that Product Managers can’t have on their own.

To enable cross-vertical comparison to highlight practices that are specific to the fintech context versus more general organizational Agile patterns, one Product Manager from the Mobility vertical and one from the LMC vertical were added.

One senior stakeholder from the payment operations side, specifically the head of Yassir Cash on the equipment and deployment side, was also included to capture the operational and strategic dimension of

the product that sits beyond the direct scope of the Product Management team but remains deeply intertwined with its decisions.

3.4. Direct Observation

Observation provides insight into events and informal dynamics that cannot be fully captured through interviews and documents. The researcher was embedded within the Yassir Product Management team for a period of one month and participated in all five Scrum ceremonies: sprint planning, daily standup, backlog refinement, sprint review, and retrospective. We also directly examined working artifacts, such as Jira boards and backlog tickets, Miro boards used in discovery workshops, Figma files in design reviews, Slack channels that showed how decisions were made outside formal meetings, and Notion for documentation and knowledge management. Throughout the internship, observations were recorded in a field journal.

These served two functions in the analysis. First, they provided independent evidence of how practices actually unfolded. Second, they allowed me to check for consistency between what participants reported in interviews and what was observed in real time.

4. Data Analysis Methode

Data were analyzed using a pattern-matching approach, which Yin (2018) identifies as the most appropriate analytical technique for single embedded case studies, as it allows the researcher to compare empirically observed patterns with theoretically predicted ones and treat discrepancies as analytically meaningful findings. Interview transcripts were manually coded using an open-coding procedure in which recurring terms, practices, and contradictions were identified line by line. Codes were then grouped into thematic clusters aligned with the five research sub-questions. No qualitative data analysis software (such as NVivo or Atlas.ti) was used; all coding was conducted manually and documented in a structured coding table maintained throughout the analysis process. Analytical rigor was supported through triangulation across three data sources: interview transcripts, internal documents, and field observation notes. Where two or more sources converged on the same finding, the evidence was treated as well-grounded; where sources diverged, the divergence itself was recorded as a finding.

The observed evidence is compared to theoretically anticipated patterns and discrepancies are treated as analytically significant rather than dismissed.

The analysis was done in three steps. First, all transcripts of interviews, field notes and internal documents were read as a whole, before any interpretation was made. Second, the evidence collected was compared to the Scrum Guide (Schwaber and Sutherland, 2020) as a theoretical benchmark, what Scrum prescribes in terms of roles, events, artifacts, and principles was compared to what actually emerged from interviews, observations, and documents. Internal documents were especially useful in this phase, with the Feature Playbook, sprint roadmap, PRDs, user stories, and regulatory texts providing concrete evidence of how Agile processes were structured in practice and how Bank of Algeria regulations shaped sprint scope and product decisions. Third, the observations were organized into five thematic clusters:

- T1: How Scrum was actually structured within the Yassir Cash team
- T2: Agile practices that were applied, adapted, or skipped relative to the canonical Scrum framework
- T3: The dual-track dynamic between discovery and delivery activities
- T4: The influence of regulatory constraints on sprint planning and backlog prioritization
- T5: Cross-squad coordination gaps and their impact on integration progress

Each theme was verified by a minimum of three independent sources. Findings were considered well-grounded where the interviews, documents, and field observations converged. If there was a difference, the difference was considered a finding, which showed the distance between the intended functioning of Agile-Scrum and its real use in real operational and regulatory conditions.

SECTION 02: ORGANIZATIONAL CONTEXT

This section aims to provide a general presentation of the host company, its history, its strategic direction, the structure of its product organization, and the positioning of Yassir Cash as the product at the center of this investigation.

5. General Presentation of Yassir

Yassir is an Algerian tech company founded in 2017 by Noureddine Tayebi and Mehdi Yettou, two entrepreneurs with academic and professional backgrounds in both Algeria and Silicon Valley. The company was initially launched as an urban mobility service but has gradually shifted towards a super app model, combining several daily services on one mobile platform (Présentation de Yassir, 2026). Today Yassir is one of the leading digital platforms in North Africa and operates in Algeria, Morocco, Tunisia, Senegal and South Africa.

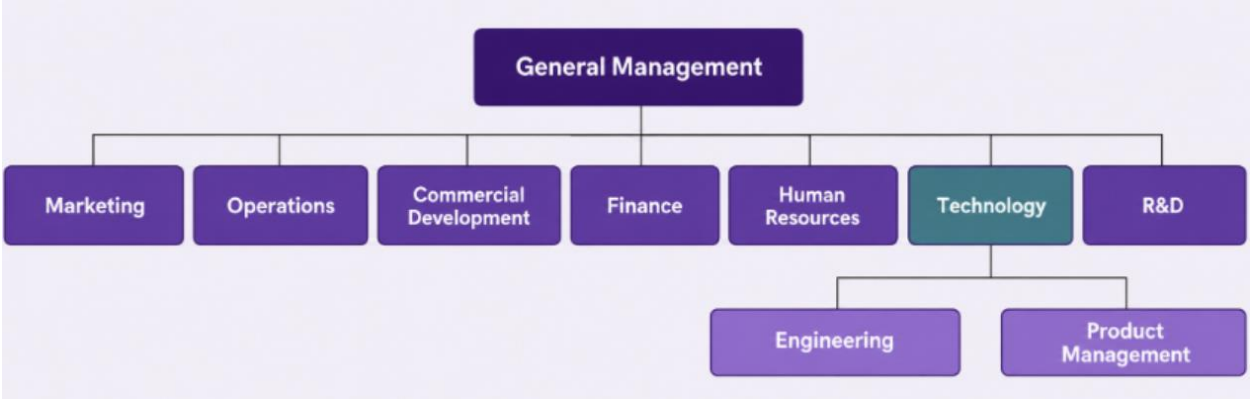
5.1. Vision, Values, and Strategic Positioning

Yassir's long-term vision is to become the first super app in Africa, integrating mobility, food and grocery delivery, parcel logistics, financial services, entertainment and mobile credit top-up in a single ecosystem (Présentation de Yassir, 2026). This ambition is seen in the successive development of its product portfolio: ride-hailing with Yassir Go (2017), food delivery with Yassir Express (2018), grocery delivery with Yassir Market (2021), digital wallet services with Yassir Cash (2025), ticketing and entertainment (2025), parcel delivery through Yassir Coursier (2025), mobile credit top-up (2026), and the entry into physical retail with the acquisition of the UNO hypermarket chain, rebranded as Yassir Market (2026). The diversification strategy is intended to increase the frequency of use of the application and to combine in one place all the daily needs of the users, which will further strengthen the positioning of Yassir as an innovative player, capable of connecting mobility, commerce, finance and entertainment in one place (Yassir's Presentation, 2026).

5.2. Organizational and Product Structure

Yassir's organizational structure is built around a central General Management function, supported by functional departments covering Marketing, Operations, Commercial Development, Finance, Human Resources, and Technology (Présentation de Yassir, 2026). The Technology department, which encompasses Engineering and Product Management, operates at the core of the company's value-creation process, translating strategic vision into deployable product features across all service verticals.

Figure 6: Yassir departments Hierarchy

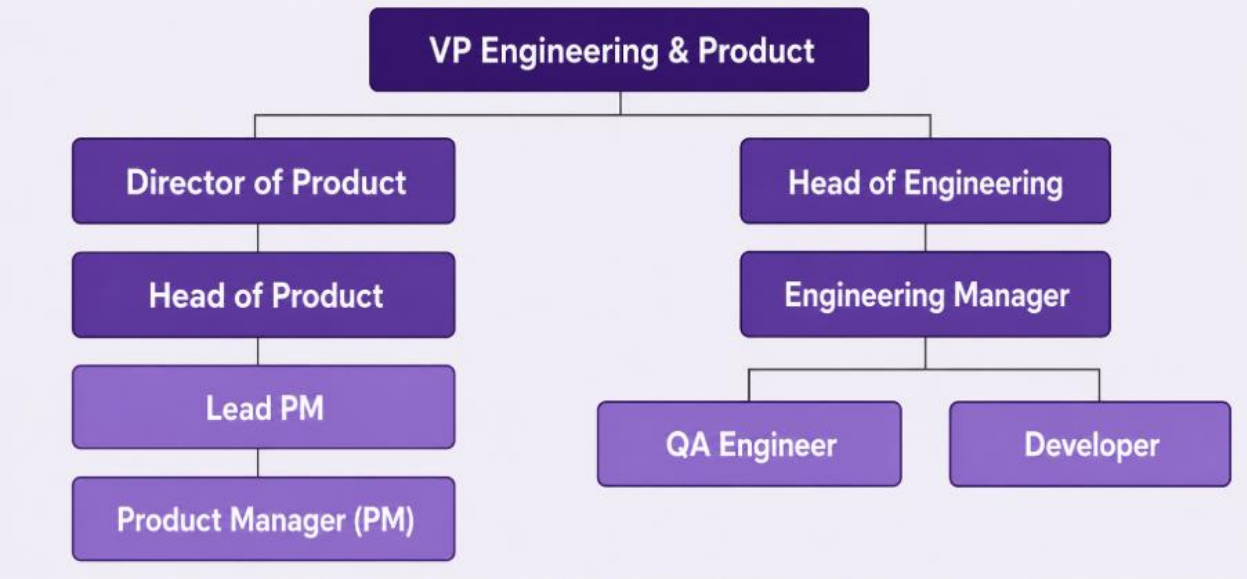


Source: Completed by the researcher- presentation of yassir (2026)

The Product Management department is organized around three primary verticals: Financial Services (FS), which oversees Yassir Cash and all associated fintech features; Mobility, which covers the ride-

hailing experience including trip flows, dispatch systems, and driver tools; and Last Mile and Delivery (LMD), which manages food delivery, grocery services, and on-demand commerce. Within each vertical, cross-functional squads bring together Product Managers, UX/UI designers, software engineers, and QA engineers under a shared product scope, operating with a degree of autonomy while remaining aligned with the overarching product roadmap defined by the Product Director.

Figure 7: Product department



Source: Completed by the researcher

6. **Yassir Cash: Product Overview and Positioning**

Yassir Cash is the digital wallet embedded within the Yassir super app ecosystem and is the first regulated digital wallet integrated within a super app in Algeria (Présentation de Yassir, 2026). Its mission, as detailed in the Feature Playbook, is to build, maintain and scale wallet capabilities for customers, drivers, couriers, merchants, sales representatives and agents across North Africa and beyond (FS Yassir Cash Feature Playbook, 2026).

This is not a standalone application, but an embedded financial infrastructure. This is available through a Mobile SDK integrated in six host applications: SuperApp, Driver App, Courier App, Merchant App, Sales Representative App and Agent App. These applications are linked to the Wallet functionality via a Backend-for-Frontend layer (BFF) that links the Mobile SDK to the Finance SDK, which is the core engine for all financial logic, ledger management and transaction processing (FS Yasir Cash Feature

Playbook, 2026). The team is set up in 2 squads. Core Squad owns the Finance SDK, BFF layer and Admin Panels. Mobile Squad owns the Mobile SDK and the standalone agent and sales representative applications.

The main features include wallet top-up via electronic payment or authorized agents, peer-to-peer transfer by phone number or QR code, Scan to Pay at the merchant's point of sale, Cash-Out, and Cashback rewards system (FS Yassir Cash Feature Playbook, 2026). In 2025, the team launched 40 new product features, 16 technical improvements and the wallet to Morocco, Tunisia and South Africa.

Algeria is the main open-loop market where users can withdraw wallet funds through a physical agent network. Morocco, Tunisia and South Africa are closed-loop markets where wallets can only be used for transactions within the ecosystem as local regulations in those jurisdictions do not yet allow for funds to be withdrawn externally. This regulatory dimension informed product decisions at all levels, from architecture to backlog prioritization, and is one of the main analytical threads of Chapter III.

Conclusion

This chapter adopted an interpretivist approach and a qualitative case study design to examine how Agile-Scrum was applied in the development of Yassir Cash. Data were collected through documentary analysis, semi-structured interviews, and direct observation, then examined through pattern matching against the Scrum framework and organized into five themes aligned with the research sub-questions.

The chapter also presented Yassir as a leading North African technology company built around a super app strategy. Within this ecosystem, Yassir Cash occupies a central position as the company's regulated digital wallet, whose development is shaped by product integration needs and Algeria's regulatory environment.

CHAPTER III:

FINDINGS AND DISCUSSION

This Chapter examines the Yassir Cash case by presenting the main findings of the qualitative study and explaining how Scrum supported the wallet's integration into the super app. It then discusses the practical challenges, adaptations, and outcomes shaped by Algeria's regulatory and ecosystem constraints.

1. Presentation of Interview Results

The results below draw from six semi-structured interviews with members of the Yassir Cash team: two Product Manager for Financial Services (PM-FS), one Product Manager for Mobility (PM-Mob), one Product Manager for LMD (PM-LMD) the Quality Assurance engineer (QA), and the Head of E-Payment (HEAD), organized across three thematic blocks.

1.1. Block 1: Agile-Scrum Structure, Roles, and Ceremonies

Table 5: Interview Results: Block 1

Question	Key Findings
Q1. Team structure	Two squads: the Core Squad (Finance SDK, BFF backend, admin panels) and the Mobile Squad (Mobile SDK, Agent App, Sales Rep App). The Product Owner role was shared informally across the fintech PMs rather than held by a single person. The QA functioned as a downstream validation gate rather than an upstream collaborator. The HEAD confirmed wallet and e-payment are architecturally separate products; inter-squad coordination occurs at the strategic level only.
Q2. Scrum Master	All four interviewees unanimously confirmed no dedicated Scrum Master exists. Facilitation and impediment removal fall informally on PMs and engineering leads. This is a structural deviation from the canonical Scrum framework (Schwaber and Sutherland, 2020). No interviewee identified it as a gap requiring resolution.

Q3. Sprint structure	Fixed two-week cadence. Sprint planning, daily standups, and reviews were consistently held. When a PRD was incomplete, the team defaulted on technical debt and bug fixes. Story points were used for estimation and tracked daily.
Q4. Tools and ceremonies	Jira (delivery tracking), Jira Product Discovery (ideation), Miro (discovery workshops), Slack (primary communication), Notion (documentation). Technical decisions made in Slack were rarely captured in Jira, creating handoff gaps. Acceptance criteria quality varied by ticket author.
Q5. Definition of Done	DoD includes code review, unit testing, QA sign-off, and PM validation. Fintech features were held to a higher standard than mobility features, but informally and undocumented. At least one feature was shipped without full regression coverage under deadline pressure. No end-user testing was used at any stage. Validation was performed exclusively by QA engineers, with beta groups limited to major releases only.

Source: Compiled by the researcher, based on semi-structured interviews conducted with Yassir Cash team members

1.2. Block 2: Discovery and Delivery

Table 6: Interview Results: Block 2

Question	**Key Findings**
Q1. From concept to sprint-ready item	The process begins with senior stakeholders setting OKRs. PMs can suggest features, but these are prioritized against OKRs before any roadmap commitments. Approved initiatives go into discovery, PRD authorship, benchmarking, UX research, and alignment across engineering, legal and design. Only when designs are about 80% complete can user stories be written. The QA comes in at refinement, when design decisions have been made final.

Q2. User research	Methods relied on competitive benchmarking, internal UX sessions, and self-testing. Regional proxies (Egypt, Senegal, Morocco, Tunisia) were used because Algerian cashless maturity is not yet comparable to global standards. No formal user panels or focus groups were used. All validation was internal.
Q3. PRD authorship and weight	PRDs are owned and written by the PMs themselves, without any imposed structure or template. Content is fully the responsibility of the PM. Fintech PRDs were much more detailed than mobility PRDs, compliance requirements, transaction limits, and integration constraints. QA does not use PRD as a must-reference document for testing, they test independently and only refer to PRD if they need more context on a feature.
Q4. Parallel discovery and delivery	A rolling dual-track model: While iteration 1 is being built, iteration 2 discovery starts. In the two-week cadence, sprints may be paused or cancelled in response to central bank directives, an advantage over waterfall structural that has been confirmed. No formal sync checkpoint existed between the tracks. Misalignment was found reactively.

Source: Compiled by the researcher, based on semi-structured interviews conducted with Yassir Cash team members

1.3. Block 3: Constraints, Gaps, and Improvement

Table 7: Interview Results: Block 3

Question	Key Findings
Q1. Regulatory constraints	The open vs. closed-loop decision per market is determined by the regulatory environment before roadmap work begins, never as a product preference. Algeria is open-loop (agent cash-out permitted); Morocco, Tunisia, and Senegal are closed-loop (external withdrawal prohibited). Compliance requirements entered sprints as P0 items, capable of displacing planned features. Features were occasionally built ahead of unpublished regulatory milestones, accepting specification change risk.

Q2. Coordination gaps	The Core Squad and Mobile Squad interface was the most persistent friction point. Features were implemented inconsistently across squads due to independently made assumptions. Cross-squad dependencies were tracked through Slack with no dedicated ceremony, surfacing blockers reactively. The QA received features after design and development decisions were finalized.
Q3. Missing Agile practices	Five converging gaps: no Scrum Master; daily standups running over one hour, resolving individual blockers in the full group;retrospectives the most neglected ceremony, with outputs rarely actioned; sprint commitments regularly exceeding realistic capacity during parallel regulatory and product workloads; technical debt informally acknowledged but never formally backlogged. No end-user testing existed; internal validation only, with beta groups for major releases.
Q4. What would each person change?	PM-FS: formalize a discovery-delivery synchronization checkpoint from sprint one. PM FS: Improve onboarding so new joiners understand the full product scope, not just their squad.

Source: Compiled by the researcher, based on semi-structured interviews conducted with Yassir Cash team members

2. Yassir Cash: Product Range and Strategy

2.1. Overview of the Yassir Cash Functionality in the Yassir Super App:

Yassir is an African technology company with a super app that combines ride-hailing, food delivery and financial services all in one platform. The push to develop a digital wallet in-house was driven by a structural problem inherent in any platform operating in cash-dominant markets: transactions settled outside the ecosystem generate no retained value, no behavioral data, and no financial continuity for the business. Yassir Cash was created to fill that gap.

The wallet is designed to serve customers, drivers, couriers, merchants, sales representatives and agents across North Africa and beyond, not as a stand-alone fintech product, but as the financial backbone of the whole super-app ecosystem (Yassir, 2025). Van der Vlist et al. (2024) show that super apps improve their competitive position by integrating financial infrastructure. By integrating payment capabilities into daily

services, they generate cross-side network effects. This increases switching costs and gradually improves user retention. Yassir internalizes the payment layer, turning every transaction into a platform-retention lever and not a commercial event.

The wallet is also a direct response to the financial inclusion gap in Yassir's core market. Historically, platform operations have been limited by Algeria's cash dependency with a large part of the driver and courier population operating outside the formal banking system (Allali et al., 2022). Yassir Cash addresses this by enabling digital settlement of earnings without the need for a bank account, broadening the platform's financial reach to user segments unreachable by traditional fintech products.

2.2. Business Needs and Product Vision

The main business need behind Yassir Cash was to get rid of the cash dependency for all service verticals under the super-app. Internal documents reveal that cashless settlement for rides, food delivery and grocery was a top-tier roadmap priority (Yassir, 2025). However, the wallet also has a retention logic: a user who maintains a stored balance in Yassir Cash is structurally incentivized to continue transacting within the ecosystem, a dynamic that is at the heart of super-app economics (van der Vlist et al., 2024).

Regulation shapes the market architecture of the wallet before product preference shapes it. Algeria is the primary example of an open-loop market where users can cash out through a physical agent network. Morocco, Tunisia and South Africa (added in 2025) are closed-loop markets where the use of wallets is restricted to in-ecosystem transactions (Yassir, 2025). The HEAD interviewee confirmed that this distinction is always a regulatory consequence, determined through a market-level regulatory assessment before any development work, and never a product design choice. The value proposition is different for each user role: Customers get access to payments, peer-to-peer transfers, cash-back and cash-out; drivers and couriers get digital earnings directly; merchants accept QR-based payments; and agents are the physical cash infrastructure of the platform in open-loop markets.

A second strategic requirement is the ability to scale across markets with different regulatory profiles. The product was built on an open and closed contract model that allows the same shared infrastructure to serve open and restricted market configurations without rebuilding the product from the ground up (Yassir, 2025). This architectural flexibility is what makes multi-market expansion commercially viable, and positions Yassir Cash as a long-term financial infrastructure layer across the African super-app economy.

2.3. The role of agile in Yassir Cash's development

2.3.1. Agile: The Best Way to Develop Fintech Products

Yassir Cash selected Agile as his development technique. The agile technique was developed for the digital wallet product environment, which is part of a dynamic super-app ecosystem serving a variety of user profiles across several regions and governed by a changing regulatory framework. Waterfall planning depends on known requirements and reliable delivery dates. This is not the case for fintech products, as the integration requirements increase with the product, user behavior is unpredictable and compliance deadlines are not constant (Beck et al., 2001). The core value of Agile in this context is not speed for the sake of speed, but the ability of Agile to adapt to change without disturbing the delivery framework.

Yassir Cash stated that the waterfall model does not mimic the natural checkpoint mechanism that exists in the biweekly sprint cycle. In a two week sprint, the sunk cost of changing a product requirement during development is days instead of months. This structural feature was crucial to the product's development, as the team was operating in a regulatory framework where the need for compliance was a milestone rather than a comprehensive set of specifications from the outset. The sprint barrier also deals with managing financial risk. It bounds the cost of uncertainty in an inherently uncertain product domain.

In addition to regulatory flexibility, Agile enables the cross-functional collaboration needed for a product of Yassir Cash's size. Engineering, product, legal, design, and operations teams must constantly coordinate to serve customers, drivers, couriers, merchants and agents simultaneously in open and closed loop marketplaces. The sprint framework provides a consistent alignment method by means of collaborative planning meetings, daily standups and review ceremonies that allow for efficient cooperation at speed (Schwaber and Sutherland, 2020).

2.3.2. Continuous Product Development Driven by Agile

Yassir Cash's Agile is not only structurally sound, but also provides the operational structure for continued product improvement once it is released to users. We are starting from the MVP. The team ships a minimum viable version of a feature, measures how the feature performs in production, and uses that to inform the development of the next iteration. "Deploy a Minimum Viable Product first, and then improve it based on the latest deployment" (PM, personal communication). The QA engineer said the reason for delivery hasn't changed: each release is an output of the product and an input for discovery for the next version. This feedback loop is exactly what Schwaber and Sutherland call the empirical basis of Scrum (Schwaber and Sutherland, 2020) with sprint-level inspection and adaptation.

The Yassir Cash model learning signals are different from classic Agile. In the absence of a proper end-user testing panel, competitive analysis can substitute for structured user research. A good example of this was the driver balancing function. The team used the public's reaction to a competitor's similar feature as real-time market data to design an alternative before launching their own version. "this gave us more flexibility to see how the public reacted to the feature so we could refine our own version before we launched it." (PM, personal communication) This is consistent with the findings of Schwarzbach et al. (2025) who found that competition from more agile market entrants forces companies to adopt faster iterative cycles and more flexible development processes. At Yassir Cash, we deliberately embed continuous improvement into the sprint framework through a rolling dual-track methodology, where the implementation of the current iteration is done in parallel with the research of the next iteration.

In this section, agile at Yassir Cash is presented as an operational adaptation of the product, rather than a formal process. The following sections cover the actual implementation of this framework and its effectiveness.

3. Scrum Framework and Rituals Implementation

3.1. Architecture and Team Structure

Yassir's Financial Services division is based on three major product pillars, Yassir Cash (the wallet), E-Payment and Airtime and Bill Payment. Each pillar works within the same organizational structure, but has its own team, backlog and sprint cycle. While this study is focused on the Yassir Cash pillar, the roadmap documentation shows that all three tracks were being worked on in parallel, on the same sprint calendar, with inter-team dependencies being handled at a strategic level, rather than through any formal Scrum ceremony across squads (Yassir, 2025).

Yassir Cash has two squads that split up the work. The Core Squad handles the financial logic of the wallet, backend infrastructure and administrative tools. The Mobile Squad's wallet interface is embedded in the host applications as seen by the user. Both teams are embedded in the same 6 host applications (SuperApp, DriverApp, CourierApp, MerchantApp, SalesRepApp, AgentApp) but via different integration layers (Yassir, 2025).

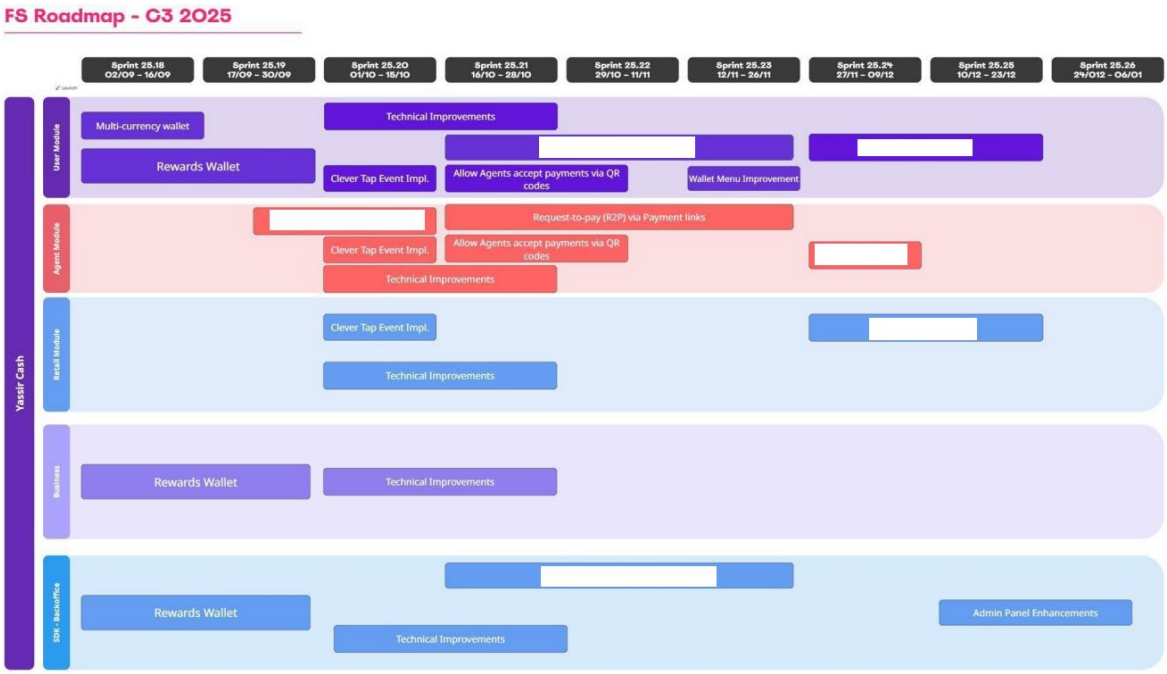
The Product Owner role is not concentrated in one person, but rather distributed among the fintech project managers of Yassir Cash. According to the Scrum Guide, the Product Owner is the only person who is responsible for maximizing the value of the product and managing the backlog (Schwaber and Sutherland, 2020).

This is a pragmatic response to a product that is at the same time, incorporating six applications, four

markets and diverse regulatory environments. The absence of a Scrum Master is an important structural element, which was confirmed by all six interviewers. Specifically, this role is responsible for facilitating ceremonies, removing impediments and coaching the team on Scrum practices (Schwaber and Sutherland, 2020). There is no one person in Yassir Cash that owns any of these functions.

The QA engineer is involved in the feature life cycle through the refinement phase, after the discovery and design decision processes have been completed. The downstream nature of the process limits the team's ability to find testability and compliance issues before design completion. This tension within the framework reappears again in the subsequent parts.

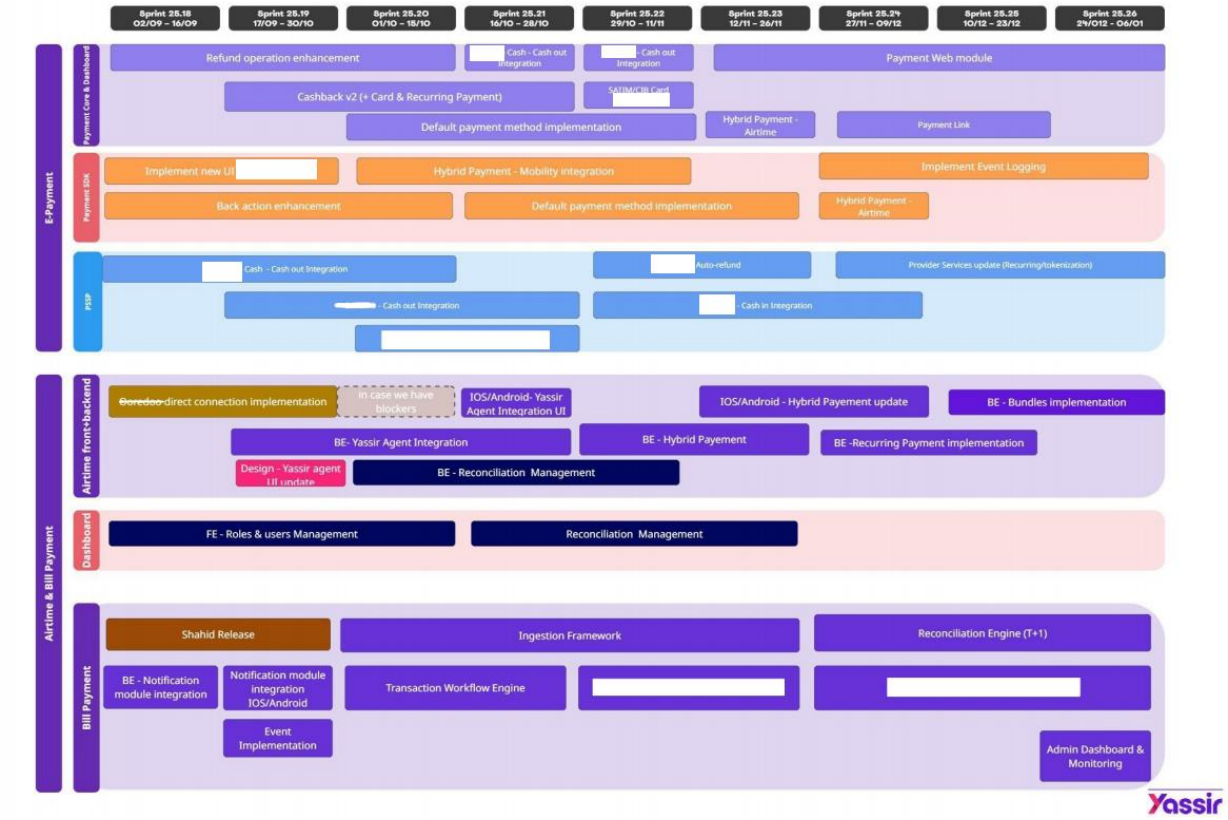
Figure 8: FS Roadmap Q3 2025, Yassir Cash Pillar (Sprints 25.18 to 25.26)



Source: Yassir (2025), internal documentation

This roadmap shows the Yassir Cash delivery plan across nine two-week sprints from September 2025 to January 2026, organized into five tracks: User Module, Agent Module, Retail Module, Business, and SDK/Backoffice. Multiple workstreams ran in parallel within the same sprint cycles, and several features, such as the Rewards Wallet, spanned multiple sprints before completion, confirming the team's practice of carrying work across sprint boundaries without scope renegotiation.

Figure 9: : FS Roadmap Q3 2025, E-Payment, PSSP and Airtime Tracks (Sprints 25.18 to 25.26)



Source: Internal Documentation Yassir (2025)

Within the same sprint calendar as Yassir Cash, this roadmap addresses the two other FS pillars: E-Payment and Airtime and Bill Payment. Features such as Hybrid Payment and Cash-out Integration exist in both E-Payment and Yassir Cash tracks, confirming the existence of cross-pillar dependencies within the same delivery period

Table 8: Scrum-Related Roles and Squad Structure at Yassir Cash

Role	**Status at Yassir Cash**
Product Owner	Shared across fintech PMs; no single designated owner
Scrum Master	Absent; facilitation falls informally on PMs and engineering leads

QA Engineer	Downstream gate; enters at refinement, not discovery
Squad structure	Core Squad (backend/infrastructure) and Mobile Squad (user-facing experience)

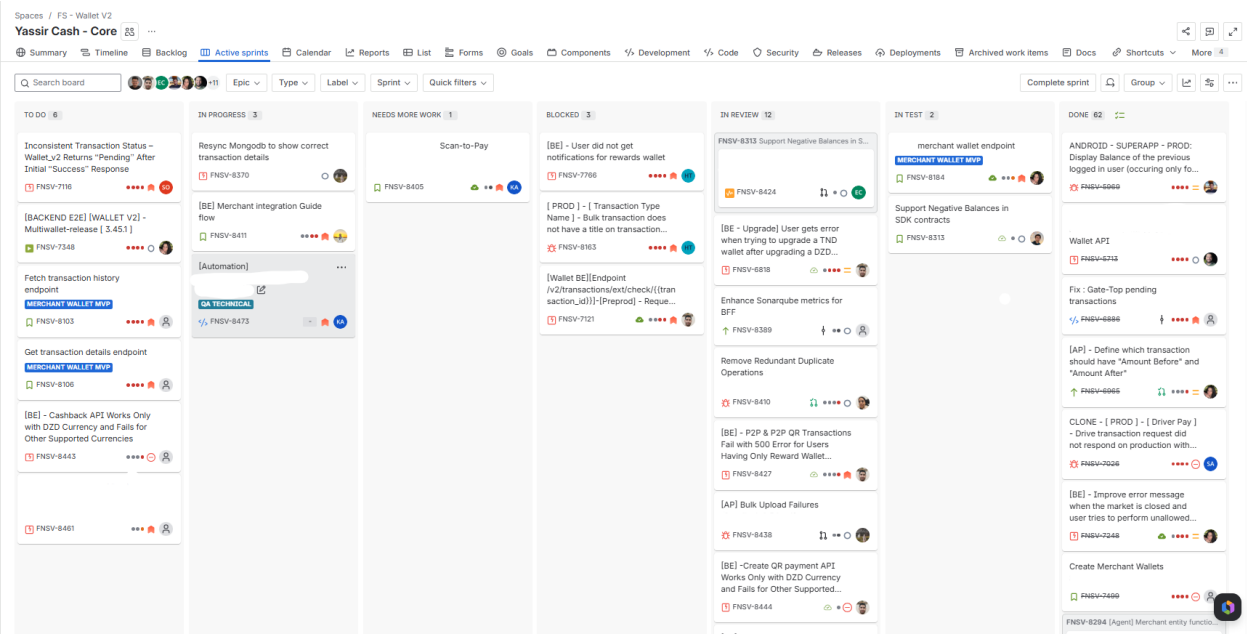
Source: Compiled by the researcher, based on semi-structured interviews and internal documentation

3.2. Sprint Cycle: Cadence, Planning and Ceremonies in Practice

Yassir Cash operates on a fixed two-week sprint cadence, and it's not just for planning convenience. In a product environment where regulatory directives can arrive mid-development, a fourteen-day sprint boundary caps the cost of disruption at days rather than months. The team confirmed the existence of a sprint cancellation protocol: if a critical directive from the Bank of Algeria significantly modifies a product requirement, the sprint can be paused, evaluated and re-planned. This is exactly the kind of responsiveness that Nerur et al. (2005) associate with Agile's structural advantage over plan-driven approaches in volatile environments.

Sprint Planning happens regularly, where we break down features into Epics and User Stories, and estimate them in Story Points. The Wednesday Kickoff is the team's internal alignment moment at the beginning of every sprint. Features that cannot fit in a single two-week window, cross sprint boundaries without scope renegotiation until the full increment ships. The sprint board screenshot below shows how work items progress through states, from To Do, In Progress, Blocked, In Review, In Test, to Done, reflecting the Scrum workflow in action (Yassir, 2025).

Figure 10: Active Sprint Board, Yassir Cash Core Squad, Jira (FS-Wallet V2)



Source: Internal documentation, Yassir (2026)

The retrospective is held at Yassir Cash, though its quality is inconsistent. Three of the six participants identified it as the ceremony most frequently reduced in depth under delivery pressure, with outputs rarely translated into concrete process changes in the following sprint.

The Scrum Guide defines the Sprint Retrospective as the designated moment for the team to inspect its own ways of working and commit to actionable changes before the next sprint begins (Schwaber and Sutherland, 2020).

The ceremony exists in practice, but the gap lies in its follow-through: observations raised during retrospectives do not consistently result in documented or actioned improvements, which limits the retrospective's ability to fulfil its intended function as a continuous improvement mechanism.

Table 9: Scrum Ceremonies and Their Practice at Yassir Cash

Ceremony	What It Covers	Practice at Yassir Cash	Key Gap
Sprint Planning	Features are broken into Epics and user stories; story points are assigned to estimate complexity; sprint goal is defined and work is distributed across the squad	Consistently held; Wednesday Kickoff serves as the opening alignment ceremony before engineering begins	Backlog items occasionally arrive without complete acceptance criteria, requiring clarification time that reduces effective sprint capacity
Daily Standup	Each team member reports progress, flags blockers, and aligns on the day's priorities; blockers are surfaced so the team can stay on track	Consistently held across both squads	Extends to 90 minutes in some teams; individual blockers are resolved in the full group rather than taken offline, reducing the whole team's available capacity
Refinement	The PM presents upcoming features; user stories and acceptance criteria are reviewed and clarified; QA and engineers assess feasibility and raise questions before sprint commitment	Held as part of the discovery-to-delivery handoff; PM authors the user stories and acceptance criteria, design and engineering align before items enter the sprint	QA enters at refinement rather than during discovery, meaning testability concerns are occasionally raised after design decisions are already finalised

Sprint Review	The team presents the completed increment to stakeholders; delivered features are demonstrated and validated against the sprint goal	Consistently held at the end of each two-week cycle	No major dysfunction reported
Sprint Retrospective	The team reflects on the previous sprint: what went well, what did not, and what concrete improvements to carry into the next cycle	Held, though inconsistently; identified as the ceremony most frequently reduced in quality under delivery pressure; outputs are rarely translated into concrete process changes in the following sprint	Process observations identified informally, such as standup overruns, are never formally captured or actioned

Source: Compiled by the researcher, based on semi-structured interviews and internal documentation

3.3. Tooling ecosystem: Jira, Miro, Slack and Notion

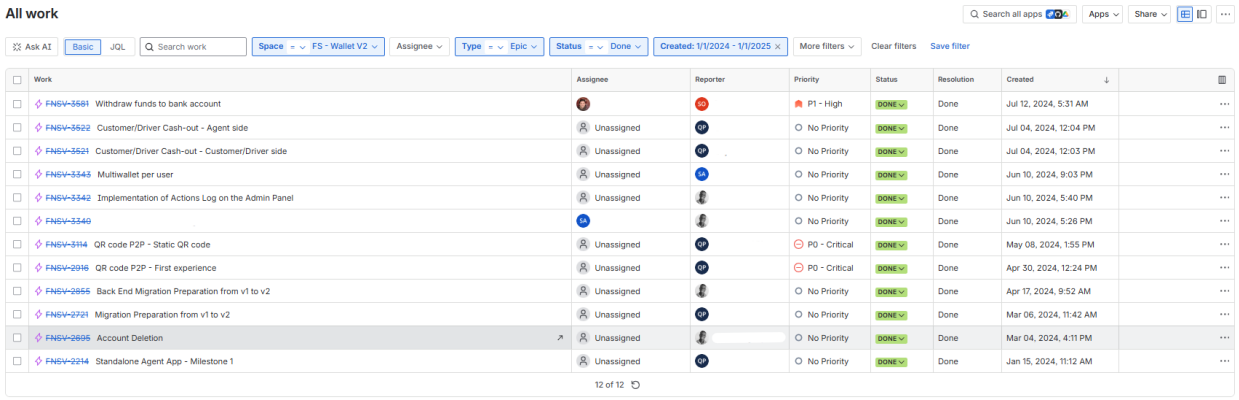
The tooling stack is well defined and each tool has a specific purpose. The sprint tracking environment is Jira. It includes Epics, user stories and task level items. Jira Product Discovery is upstream in a separate workspace for idea scoring and validation before features are promoted to the delivery board. Miro is the visual workspace for user flow mapping and discovery sessions. We use Slack for daily communication. Notion for internal documentation and process references.

The biggest gap in this stack is not the absence of a tool, but the misuse of an existing one. Slack is an ephemeral communication channel by nature; it was never meant to carry product or technical decisions. But at Yassir Cash, crucial decisions are often made in Slack threads and are never documented in Jira. A scope, architecture or compliance decision that exists only in a message thread is invisible to anyone not on that thread, not inspectable during a sprint review, and lacking an audit trail. This directly attacks two

of Scrum's three empirical pillars: transparency and inspection. Schwaber and Sutherland (2020) identify these as foundational to the effectiveness of the whole framework.

The screenshot below from the Epics board provides a visual of the backlog structure - twelve Epics delivered during the 2024 delivery period, from core wallet functionalities (QR code P2P, cash-out, multiwallet) to infrastructure migrations (v1 to v2). Priority classes are visible, with P0-Critical items - QR code P2P and first experience - reflecting the compliance-driven prioritisation logic as discussed in section 3.2.

Figure 11: FS-Wallet V2 Space Completed Epics Board, Jira (Jan 2024 to Jan 2025)



Source: Yassir (2025), internal documentation

Table 10: Tooling Stack for Scrum Work at Yassir Cash

Tool	**Role**	**Key Gap**
Jira	Sprint tracking, Epics, user stories	Epic-to-Idea traceability not consistently maintained
Miro	Discovery workshops and flow mapping	No identified gap
Slack	Communication and coordination	Technical decisions made here are rarely captured in Jira

Notion	Documentation and onboarding references	Disconnected from live sprint workflow

Source: Compiled by the researcher, based on semi-structured interviews and internal documentation

A consistent pattern emerges if we read across these three subsections. The Scrum elements that Yassir Cash has most consistently applied are those that are reinforced by routine: sprint cadence, planning, daily standups, and tooling. The very things that need an active facilitator to keep them alive (the retrospective, standup discipline, cross-squad coordination, and decision documentation) are the very things that have degraded. This is no accident. It is the structural effect of not having a Scrum Master.

The next section examines the challenges the team faced in practice with respect to regulation and coordination, and the effect of not having a Scrum Master.

4. The Scrum Flow: Discovery & Delivery

4.1. The Feature Lifecycle: OKR to Sprint-Ready Item

This subsection presents empirical results for the transition of features from strategic objectives to sprint-ready items at Yassir Cash (RQ1 and RQ2).

A feature goes through a prescribed pre-sprint sequence before any development can begin. It begins with the OKRs set by senior stakeholders, which provide the directional targets for the product team to operate within. PMs then use these objectives to build initiatives.

Each initiative has a vision statement, a problem statement, and a measurable goal.

These are then brought to senior leadership for approval. The result is a three-way split: initiatives that are approved make it onto the roadmap, those that are not approved are pushed into a parking lot backlog, and ideas that are not supported are dropped.

Once the roadmap is done, the PM does discovery through market research, competitive benchmarking, internal UX research and regulatory screening before writing a PRD that indicates the handoff to design.

PM-FS said that an 80% design threshold is a checkpoint to make sure engineering doesn't start until the scope and visual logic are relatively stable. At that point, user stories are written and engineers break the feature into Epics and sprint-level tasks.

QA occurs during the refinement stage, after the design decisions have been taken. This funnel is the intended order, but is sometimes compressed when discovery falls behind delivery, or when regulation directives arrive in the middle of a sprint, as described in section 5.4.

Table 11: Pre-Sprint Feature Lifecycle at Yassir Cash (OKRs to Sprint-Ready Backlog Item

Stage	Actor	Output
OKRs received	Stakeholders to PM	Strategic objectives for the quarter
Initiative formation	PM	Vision, problem statement, goal
Leadership review	Senior PMs, lead PMs, CEO	Approved / parking lot / scrapped
Discovery	PM	Market research, benchmarking, UX research, regulatory screening
PRD authorship	PM with legal and design	Product Requirements Document
80% design checkpoint	PM and design	User stories unlocked for writing
Engineering estimation	Engineers	Epics, story breakdown, story points
Sprint planning	Full team	Sprint-ready backlog item

Source: Compiled by the researcher, based on semi-structured interviews and internal documentation.

4.2. The Discovery Track: Research, PRDs, and Stakeholder Alignment

This section presents the findings on how discovery is conducted and product requirements are defined prior to delivery (RQ1 and RQ2).

The discovery at Yassir Cash is document driven and led by the PM. PMs largely rely on competitive benchmark and internal UX sessions; no formal user panels or focus groups were reported at any stage.

PMs used comparable African markets (Egypt, Senegal, Morocco and Tunisia) as proxies for a more mature cashless experience as the digital payments landscape in Algeria is still developing.

The PM creates the PRD from the ground up, with no imposed structure or template. PM-FS says the intended standard is that the PRD has user stories, acceptance criteria and testable scenarios before handoff, but later evidence shows that this standard is sometimes relaxed when discovery lags behind delivery. User stories are written in a Given/When/Then format to build testability into the requirement itself. For financial features, the legal team is a mandatory PRD stakeholder, influencing both functional specs and UX writing. For example, the platform says "refund" instead of "cash out" because Yassir Cash is selling digital credits, not holding customer funds, like a bank would. QA does not participate in the PRD writing process, but reviews the PRD at refinement to catch edge cases.

In conclusion, discovery is led by PM-authored PRDs that embed legal constraints early on, with competitive benchmarking being the primary alternative to formalized external user research.

Table 12: User Research and Validation Methods Used for Yassir Cash

Method	**Applied**	**Actor**	**Notes**
Competitive benchmarking	Yes	PM-FS, PM-Mob	Primary method; comparable markets used as proxies
Internal UX research sessions	Yes	PM, UX	Self-testing and internal review
Formal user panels or focus groups	No	—	Not applied at any stage
Beta groups	Selective	QA, PM	Major feature releases only

Source: Compiled by the researcher, based on semi-structured interviews and internal documentation

4.3. The Delivery Track: Testing Pipeline and Sprint Execution

This subsection summarizes empirical findings on how features are executed during sprints and validated before release (RQ2 and RQ5).

Engineers divide Epics into sprint tasks and estimate using story points after reaching the 80% design phase. According to PM-FS and QA, "story point allocation at planning includes a deliberate buffer to absorb integration testing costs across the six host applications," referring to the procedure as "accumulated experience with multi-application delivery complexity."

Code review, unit testing, QA sign-off, and PM validation are the four steps of the DoD process. The higher standard used for financial features is applied informally through additional PM-FS and QA checks, but there is no official team level DoD that distinguishes fintech from mobility features. Features are pipelined into testing in four settings following DoD approval: staging, pre-production, production, and beta testing for key features.

On the delivery side, two modifications were noted. When there are no features that are ready for discovery, PM-FS and PM-Mob invented the practice of deferring engineers to technical debt and bug fixes, only bringing finished PRD sections into planning. Second, it is difficult to plan systematic repair during sprints since technical debt is frequently documented informally and seldom elevated to formal backlog items with clear acceptance criteria.

Table 13: Definition of Done Stages for Yassir Cash Features

DoD Stage	Actor	Criterion
Code review	Engineers	Peer review of all merged code
Unit testing	Engineers	Automated tests pass for all new logic
QA sign-off	QA engineer	All PRD-defined scenarios tested and passed
PM validation	PM	Full stakeholder consensus on delivered output

Source: Author compilation, derived on internal records and semi-structured interviews

4.4. **Parallel Tracks: Adaptation, Tension, and Synchronization**

This article summarizes how simultaneous discovery and delivery tracks interact in real-world scenarios, emphasizing synchronization methods and conflicts (RQ3 and RQ4).

Yassir Cash has simultaneous delivery and discovery. While the PM does research for the upcoming iteration, the engineers are working on the current sprint. This is "treating each deployed version as input to discovery for the next, learning from live behavior," according to the QA engineer. Simpler features don't require a parallel structure because discovery finishes with the first PRD.

The lack of a defined synchronization point between the two streams was a common source of conflict, according to the engineers and QA. According to PM-FS, without a formal synchronization ceremony, the PM personally handles the conflicts between evolving requirements and ongoing work during sprints. According to the QA, throughout the sprint itself, they were required to test features whose specs were still being worked up.

Participants acknowledged that when important regulatory directions are received in the middle of a sprint, sprints may occasionally be canceled. When this happens, the team pauses work and reorganizes the sprint content to include the new P0 items. Regulatory needs can be added to the sprint backlog after planning, replacing previously committed features, as was covered in section 5.1.

Table 14: Interaction Between Discovery and Delivery Tracks at Yassir Cash

Dimension	**Finding**
Parallel tracks	Discovery for N+1 runs while delivery builds N
Sync checkpoint	No formal ceremony closes discovery before delivery begins
Incomplete requirements	QA confirmed testing features with still-evolving specifications
Sprint cancellation	Confirmed; triggered by critical regulatory changes

Regulatory entry into sprint	P0 items can displace planned features after sprint planning
PM workload	PM carries both discovery and delivery simultaneously

Source: Researcher, based on internal records and semi-structured interviews

5. Regulatory Environment and Its Entry Points into the Product Process

5.1. Open-Loop vs Closed-Loop Market Setup

Interviewees and internal documents indicate that the open-loop or closed-loop architecture of Yassir Cash is determined before any market roadmap is defined.

- The Head of Financial Services explained that the team first examines the regulatory framework of each region and, based on this assessment, decides whether the wallet can support cash-out into the physical economy (open loop) or must remain restricted to in-ecosystem spending (closed loop).
- In Algeria, Regulation No. 25-02 (14 April 2025) from the Bank of Algeria defines the conditions under which payment service providers may mandate agents to provide payment services; this regulation enables an agent network through which users can withdraw wallet funds as cash, making Algeria an open-loop market.
- Internal strategy documents show that Morocco, Tunisia and South Africa, added to the product scope in 2025, are currently operated as closed-loop markets, with wallet balances used only inside the Yassir ecosystem because local regulatory conditions do not yet permit external cash-out in the same way as Algeria.

A simplified market map used internally highlights Algeria as the only open-loop market, with the other three markets running in closed-loop mode.

5.2. Three Regulatory Entry Points into the Lifecycle

Data from interviews and PRDs show that regulatory requirements enter the product and sprint process at three distinct points.

1. **Pre-roadmap (architecture level)**
    - Before any initiative is added to the roadmap for a given country, the legal and compliance context is reviewed by the Head of Financial Services and the legal team.

- This review determines whether features such as cash-out via agents or open-loop transfers are permissible and therefore whether they can be considered at all in that market.

2. **During PRD authorship (specification level)**
    - For any feature involving financial transactions, the legal team is listed as a formal stakeholder in the PRD and provides input on both functional behaviour and wording.
    - In the Transaction Receipt PRD, the problem statement explicitly cites several legal articles (tax, e-commerce, anti-money-laundering and commercial-code provisions) as the origin of the requirement, and these references appear before the user stories.
    - PMs reported that certain interface terms, such as the choice of "refund" instead of "cash-out" in user-facing copy, were decided to align with how Algerian law classifies Yassir Cash as selling digital credits rather than holding deposits like a bank.
1. **During the sprint (backlog level)**
    - When new directives from the Bank of Algeria or other authorities materially affect how the product must function, they enter the backlog as **P0** items.
    - PM-FS confirmed that such compliance items have the priority to override previously selected sprint scope and can lead the team to replan the sprint, with the understanding that a major directive might even justify pausing ongoing work and reassessing commitments.

A diagram used by the team links these three points (pre-roadmap, PRD, and P0-in-sprint) to the feature lifecycle described earlier, showing where regulation is assessed, specified and then implemented in the Yassir Cash process.

Section 2:DISCUSSION

6. Theory and Practice: Convergences and Divergences

This case study is not about whether Yassir Cash used Agile by name, but about how close its practice was to Scrum theory, where it was intentionally adapted and where it diverged in ways impacting coordination and delivery. Schwaber and Sutherland (2020) emphasize that the absence of core Scrum elements does not remove problems, it tends to hide them. The Yassir Cash case illustrates both continuity and selective departure from Scrum.

Several core Scrum practices were applied in a way very consistent with the framework. Sprint planning meetings were always held, the two-week cycle was preserved, sprint reviews were performed and story points were used for estimation. The backlog was also ordered with a clear flow from OKRs to initiatives to items on the roadmap and sprint-ready work. This aligns with the conceptual framework of backlog prioritisation as the bridge between strategy and execution in product management. The MVP-first logic and dual-track discovery process also mirror the iterative and learning-oriented logic of Agile, where every deployed version guides the next cycle. This type of iterative delivery is associated by Serrador and Pinto (2020) with improved project results and stakeholder satisfaction, which is consistent with the product rhythm at Yassir Cash.

The differences are structural mostly. In the Scrum Guide there is only one Product Owner and one dedicated Scrum Master. Yassir Cash has multiple fintech PMs as Product Owners, and no Scrum Master at all. This matters because in the data the lack of a facilitation role correlates with less disciplined ceremonies, slower resolution of blockers, and less formal process improvement through retrospectives. Dikert et al. (2021) identify role ambiguity and inconsistent framework consistency as common reasons for challenges in Agile adoption, and the Yassir Cash case is no exception. Some of the deviations were pragmatic (rather than weak) at the same time; for example, using partial PRDs when discovery was ongoing. The team has adapted Scrum to a live fintech environment rather than using it mechanically in this sense.

Table 15: Scrum Principles in Theory and Yassir Cash Practice

Scrum Principle	Theory	Yassir Cash Practice	Status

Sprint cadence	Timeboxed sprints	Two-week sprints, consistently maintained	Applied
Sprint planning	Team selects backlog items	Consistently held, with Wednesday Kickoff	Applied
Sprint review	Inspect increment with stakeholders	Consistently held	Applied
Sprint retrospective	Inspect process and improve	Held, but weaker in follow-through	Adapted
Daily Scrum	Short blocker-focused meeting	Often extended beyond the intended timebox	Degraded
Product Owner	One accountable person	Shared across fintech PMs	Adapted
Scrum Master	Dedicated facilitator	Not present	Absent
Backlog refinement	Continuous ordering and updating	OKR-to-roadmap-to-sprint flow	Applied
MVP delivery	Build, inspect, adapt	Confirmed MVP-first logic	Applied
QA involvement	Quality embedded early	QA enters at refinement	Degraded
User feedback	Direct end-user input	Internal QA only, User feedback after delivery.	Absent
Definition of Done	Formal and shared	Present, but informally held	Adapted

Source: Researcher, based on internal records and semi-structured interviews

7. Yassir Cash Agile Implementation SWOT Analysis

This SWOT analysis is not a standard organizational activity. In this work, we study the particular implementation of Scrum at Yassir Cash, based on the evidence gathered in Sections 1 to 4, each associated with an observed practice, document, or interview result.

Table 16: SWOT Analysis of Yassir Cash's Agile Scrum Implementation

Helpful	**Harmful**
Internal Strengths	**Internal Weaknesses**
Two-week sprint cadence maintained across the wallet and related financial service tracks (see sprint board and roadmap figures).	No Scrum Master; facilitation is handled informally by PMs and engineers.
OKR-to-initiative-to-roadmap flow gives a clear line from strategy to sprint work.	Retrospectives are held but Their outcomes are not always fully translated into concrete process improvements
Legal review is built into PRD work for financial features.	QA enters after design decisions are already finalised, limiting early testability input.
MVP-first delivery and dual-track discovery support iterative learning.	No formal end-user testing; validation relies on QA and internal review rather than direct user feedback.
Story point buffers are used to absorb integration complexity across multiple host applications.	No Dedicated Product Owner, The role is distributed across PMs and stackholders

Sprint cancellation exists for critical regulatory changes.	Daily standups can overrun and lose their intended focus when not actively facilitated.

Source: Researcher, based on internal records and semi-structured interviews

External Opportunities	**External Threats**
Regulatory preparation may strengthen Yassir Cash's position for PSP licence expansion.	Central Bank directives can displace planned sprint items at short notice.
Expansion into closed-loop markets creates repeated opportunities to refine wallet-based feature delivery.	Lack of open banking in Algeria limits integration options and slows product scope expansion.
New regulations formalising agent and cantonnement rules support compliance-first development.	Multi-market growth increases coordination pressure across squads.
Competitive benchmarking can continue to support discovery where formal user panels are unavailable.	Closed-loop markets reduce product flexibility and make competitor moves more influential in discovery.
PSP licence acquisition would widen the addressable market to external merchants.	Faster delivery without stronger facilitation increases the risk of ceremony erosion and coordination gaps.

Source: Researcher, based on internal records and semi-structured interviews

Schwarzbach et al. (2025) show that agile delivery can improve speed and decision quality, but only when role clarity and expectations are well defined. The Yassir Cash case fits that pattern: delivery discipline is strong, but governance is the weaker side of the model.

8. **Breakdown in Communication and Coordination**

Interview evidence indicates that many of the noted gaps in coordination and ceremony are tied to the lack of a dedicated facilitation role. In the Yassir Cash setup, there is no one to formally be responsible for spotting, surfacing and removing impediments as they arise between squads, workstreams and sprint activities. Why is this important? The team needs coordination over and over again across product, engineering, and QA, but the structure doesn't have a single role to hold these interactions together. These coordination issues are the concrete answer to RQ3 and RQ4, on how organizational constraints and cross-team dynamics affect Scrum implementation.

The most visible point of friction is the interface between the Core Squad and the Mobile Squad. This was a concern raised independently by three of the six interviewees. The PM-FS described situations where the same feature was implemented differently across squads, because assumptions were made without a shared synchronization mechanism. Cross-squad dependencies are tracked informally via Slack, so blockers are generally discovered after work has begun rather than before. In practice, this means coordination is more a matter of individual effort than of formal Scrum structure.

The QA position is the same pattern. QA comes in at the refinement stage, once the big design decisions are locked down, meaning they can’t provide input early on testability and compliance. The QA also mentioned being asked to validate features while the requirements were still changing in the sprint. Kaur (2025) suggests that early involvement of quality and compliance in Agile cycles helps in reducing rework and delays. This is not the case for Yassir Cash where late entry of QA has the reverse effect.

Table 17: Coordination Gaps Observed in the Yassir Cash Scrum Setup

Gap	**Structural Cause**	**Consequence**
Core Squad / Mobile Squad misalignment	No cross-squad ceremony; Slack as tracker	Features implemented inconsistently across squads
Discovery-delivery desynchronisation	No formal sync checkpoint	QA tests evolving requirements mid-sprint

Slack-based decisions not in Jira	Informal discussion in Slack is not always immediately converted into tracked work.	Handoffs lose traceability unless the point is formalized in Jira.
QA absence from discovery	QA enters at refinement, after design is finalised	Testability and compliance issues found late

Source: Researcher, based on internal records and semi-structured interviews

Table 18: Agile Practice Gaps and Their Effects at Yassir Cash

Agile Practice Gap	**Observed Status**	**Root Cause**	**Impact**
Scrum Master	Absent	Deliberate or unrealised omission	Ceremony and coordination gaps persist
Retrospective	Held, but inconsistent	No facilitator to protect it under pressure	Process improvement is present, but not fully stabilized.
Standup discipline	Sometimes less structured.	No timebox enforcer	Lost team capacity
End-user testing	Absent	Internal QA model	Discovery relies on benchmarking, not user signal
DoD formalisation	Informal	PM-held rather than team-documented	Higher fintech standard applied inconsistently

Source: Researcher, based on internal records and semi-structured interviews

9. Interpretation of Findings

The analysis shows that Yassir Cash employs Agile Scrum in a context-sensitive manner and does not adhere to a textbook model. The product process is heavily influenced by regulation which means that market architecture, compliance requirements and feature priorities are all affected by the Algerian financial landscape before and during delivery. At the same time the team still holds a clear rhythm of sprints, a structured flow of backlog and an iterative logic of delivery that shows that Scrum is not lacking but selectively adapted.

At the same time, the team maintains a clear sprint rhythm, a structured backlog flow, and an iterative delivery logic, which indicates that Scrum is not absent but selectively adapted. The product development flow also follows a coherent sequence from OKRs to discovery, PRD preparation, design, refinement, sprint planning, and delivery, with the PM playing a central coordination role across these phases. The dual-track structure supports continuity and speed, but it also requires active coordination because discovery and delivery are kept parallel rather than fully separated.

The third major finding is that ceremony effectiveness depends heavily on individual coordination rather than on a dedicated facilitation role. Sprint planning and review are in place, but standups can lose focus when they are not actively facilitated, which means the team delivers value while some of Scrum’s coordination benefits remain only partially realized

Conclusion:

Chapter 3 set out to examine how Agile Scrum was concretely implemented in the development of Yassir Cash, and what the evidence reveals about the strengths, gaps, and adaptations of that implementation in the Algerian fintech context. The findings show that the team built a working and context-sensitive version of Scrum rather than a textbook application. Sprint cadence, backlog structure, and dual-track discovery were consistently in place, but ceremony governance and end-user validation were structurally weaker. The regulatory environment shaped product decisions at every stage, from market architecture to sprint prioritisation, confirming that compliance is not a constraint on the product but a dimension of the product strategy itself.

The study answers the research questions in the following way. For Yassir Cash, Scrum is used as a delivery framework but adapted to a regulated fintech environment. The most visible adaptations are the spread-out Product Owner role, the absence of a Scrum Master, the legal team's input into PRDs, the use of benchmarking rather than formal user panels, and the ability to pause or cancel sprints when regulatory directives mandate it.

The main constraints are not only technical but organisational. Coordination gaps exist between squads, between discovery and delivery, and between communication tools and formal documentation. The QA role itself is also late in the process, limiting early input on testability and compliance. Together, these findings suggest that Yassir Cash has constructed a workable version of Scrum, but one that remains vulnerable where the structured facilitation and end-user validation are missing.

GENERAL CONCLUSION

The thesis studied the use of Agile Scrum methodology for developing and integrating Yassir Cash, a digital wallet integrated in a super app, in the context of Algerian financial regulation. It was based on a literature review on digital payments, product management and Scrum, and a qualitative case study with internal documents and interviews. Our aim was to explore not only whether Scrum was used, but also how it was used, adapted and constrained in this particular fintech setting.

Summary of key findings

Scrum begins, product shaped by regulation

The study reveals that regulatory assessment almost always comes before big product decisions. The legal requirements dictate the open-loop vs. closed-loop architecture, the role of agents, and many features (such as transaction receipts and KYC tiers) before any sprint planning.
Regulation happens at three levels: market architecture (before the roadmap), PRD authorship, and as P0 items that can change a sprint mid-cycle.

Scrum with a strong delivery core but a weak facilitation layer

Yassir Cash maintains a tough two-week rhythm, always runs Sprint Planning and Sprint Review, employs story points and a clear backlog flow from OKRs to sprint-ready items, and iterates with MVPs and dual-track discovery. Meanwhile, the Product Owner role is distributed across several PMs, and there is no formal Scrum Master.

Discovery and delivery

Discovery (research, PRD, design) for version N+1 happens in parallel with development of version N. This allows a continuous stream of features and lets each release feed into the next iteration.

Compliance shaped early design choices

Compliance was a design constraint rather than a post-launch correction. Several product decisions, such as agent access, account tiers, transaction limits, and receipt-related flows, were shaped early to remain compatible with the regulatory environment, which made the product more prepared for licensing requirements

Key implications

1.1. Implications for theory

The case supports the idea that Scrum can be meaningfully adapted in regulated, emerging-market fintech but also shows that dropping certain roles (Scrum Master, single Product Owner) have predictable consequences for coordination and ceremony quality. This is a good illustration of how regulation becomes a primary design input to an Agile process rather than a late external constraint.

1.2. Managerial implications

For practitioners the thesis implies that cadence and iterative delivery can be achieved even in the presence of strong regulation, if legal is involved early in PRD and backlog. However, in the absence of a clear facilitation role and documented synchronization mechanisms coordination costs rise and some of the potential benefits of Scrum, particularly those around continuous improvement and transparency, are not realized.

Limitations of study

This study is based on a single case, in a single organisation and a single national ecosystem, which limits the generalizability of the findings. The data are based on a limited number of interviews and internal artefacts, which provide depth but are still an internal view of the company rather than multiple external views. End-users were not interviewed directly, therefore conclusions around user experience, trust or adoption are made on internal interpretation and secondary sources rather than primary user research. Finally, the analysis is a snapshot in time; as Yassir Cash and the Algerian regulatory environment change, some practices and structures could be changed.

Recommendations:

Below are recommendations, listed from most structural to most operational.

A. Set up a formal facilitator role: Add a Scrum Master (or equivalent) role to protect ceremony quality, coordinate across squads and deal with impediments. This recommendation is mainly the analytical conclusion of the researcher based on the repeated coordination gaps in the data.

B. Involve QA earlier in discovery: Get QA involved early, before design is finalized, ideally during PRD review and early stakeholder alignment. This recommendation is backed by the researcher's analysis and by the QA interviewee's own view.

C. Formalize the discovery-delivery check-point: Make sure there is a clear handoff from discovery to sprint commitment, so that features are not still moving around when we start to deliver them. This will result in less rework and more stable sprint planning.

D. Test iterations with end users: Validate incremental features for wallet flows, cash-out journeys, and payment interactions with real end users before a full release. This would strengthen the feedback loop and bridge the gap between internal validation and real user experience. This is especially important given that validation now depends almost entirely on QA and internal review.

E. Better documentation and onboarding: Decisions taken in Slack need to be reflected in Jira, and new joiners need to have onboarding covering the whole product, not just their squad. This recommendation is based partly on the input from interviews and partly on the researcher's reading of the coordination issues.

Potential extensions of the research

A. Compare Yassir Cash with other fintech or super-app wallets in Algeria or similar markets to see if the same Scrum adaptations and regulatory patterns emerge elsewhere.
B. Supplement internal process views with user-centric studies on wallet adoption, trust and experience, particularly around cash-out, merchant payments and dispute handling.
C. Follow Yassir Cash longitudinally to observe the evolution of Scrum practices, roles and coordination mechanisms if a formal facilitation role is introduced or PSP licensing is obtained.
D. More in detail, learn multi-team Scrum governance, comparing various models to synchronise squads and pillars in complex product organizations.

References:

- Abdul-Halim, N. A., Hashim, H., & Samat, M. F. (2021). Digital wallet: A review of literature. Journal of Mobile Multimedia, 17(4), 457-476.
- AfricaNenda. (2024). State of Inclusive Instant Payment Systems (SIIPS) 2024: Algeria consumer research. AfricaNenda, World Bank, & UNECA. https://africanenda.org/siips2024
- AfricaNenda. (2025). State of Inclusive Instant Payment Systems (SIIPS) 2025. AfricaNenda, World Bank, & UNECA. https://africanenda.org/siips-report-2024
- Al-Saqqa, S., Sawalha, S., & AbdelNabi, H. (2020). Agile software development: Methodologies and trends. International Journal of Interactive Mobile Technologies, 14(11), 246-270.
- Akhtar, A. (2022). A comprehensive guide to agile frameworks. Scrum Alliance.
- AlBabtain, L. (2024). Agile project management in fintech: A literature review. Journal of Financial Technology, 12(3), 145-162.
- Allali, S., Guechi, M., & Berkane, I. (2022). Digital payments in Algeria: Requirements for modernization after the Covid-19 pandemic. Journal of Economic Integration, 10(4), 438-457. https://asjp.cerist.dz/en/article/215478
- Almeida, F., & Espinheira, E. (2021). Large scale agile frameworks: A comparative review. Journal of Applied Sciences, Management and Engineering Technology, 2(1), 16-29.
- Almi, A., & Awashreh, M. (2025). The role of fintech in transforming Algerian bank foreign trade transactions. International Journal of Financial Innovation, 15(2), 89-112.
- Awais, M., Abdul, R., & Muhammad, S. (2019). Trust and adoption of digital wallets: A consumer perspective. Journal of Internet Banking and Commerce, 24(1), 1-18.
- Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R. C., Mellor, S., Schwaber, K., Sutherland, J., & Thomas, D. (2001). Manifesto for agile software development. Agile Alliance. https://agilemanifesto.org
- Bezhovski, Z. (2016). The future of mobile payment as electronic payment system. European Journal of Business and Management, 8(8), 127-132.
- Blank, S. (2013). Why the lean start-up changes everything. Harvard Business Review, 91(5), 63-72.

- Bougouffa, L. (2025). Digital entrepreneurship dynamics in the era of financial technology: The case of digital payment through Guiddini in Algeria. Journal of Advanced Economic Research, 10(2), 114-130. https://asjp.cerist.dz/en/article/284601
- Cagan, M. (2017). Inspired: How to create tech products customers love (2nd ed.). Wiley.
- Cohn, M. (2004). User stories applied: For agile software development. Addison-Wesley Professional.
- Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.
- Design Council. (2005). The double diamond design process. Design Council. https://www.designcouncil.org.uk
- Dingsøyr, T., Nerur, S., Balijepally, V., & Moe, N. B. (2012). A decade of agile methodologies: Towards explaining agile software development. Journal of Systems and Software, 85(6), 1213-1221. https://doi.org/10.1016/j.jss.2012.02.033
- Dudin, M. N., Frolova, E. E., Artemieva, J. A., Bezbah, V. V., & Kirsanov, A. N. (2018). Problems and perspectives of FINTECH segment development in the RF. European Research Studies Journal, 21(3), 727-738.
- Eilers, K., Peters, C., & Leimeister, J. M. (2022). Why the agile mindset matters. Technological Forecasting and Social Change, 179, Article 121650. https://doi.org/10.1016/j.techfore.2022.121650
- Eriksson, M. (2011). Product management at the intersection of business, technology and user experience. Mind the Product.
- Fowler, M., & Highsmith, J. (2001). The agile manifesto. Software Development, 9(8), 28-35.
- GSMA. (2023). The state of mobile money 2023: Agent networks. GSMA Mobile Money Programme. https://www.gsma.com/mobilemoney
- Hassan, M. A., & Shukur, Z. (2019). Framework of mobile wallet acceptance among malaysian users. International Journal of Advanced Computer Science and Applications, 10(8), 130-137.
- Hatzinger, M., Klünder, J., Körner, P., Kurpjuweit, S., & Wagner, S. (2020). A systematic approach for agile development in highly regulated environments. Journal of Systems and Software, 168, Article 110624.

- Hirner, J. (2019). Agile in regulated industries: Managing compliance while maintaining speed. Project Management Institute.
- IJISRT. (2024). Future design considerations for digital wallets: Accessibility and financial literacy. International Journal of Innovative Science and Research Technology, 9(3), 445-458.
- Jack, W., & Suri, T. (2011). Mobile money: The economics of M-PESA. NBER Working Paper Series, No. 16721. National Bureau of Economic Research. https://doi.org/10.3386/w16721
- Kaur, M. (2025). Scrum implementation in financial services: Challenges and success factors. Journal of Agile Management, 8(1), 34-52.
- Koudjil, M., Ouahab, A., & Bendaoudia, N. (2024). Financial inclusion through fintech in Algeria: Challenges and opportunities. Algerian Journal of Economics and Management, 12(1), 78-95.
- Kraiwanit, T., Hongwiset, J., & Limsuwan, P. (2024). Service synergy and adoption in super apps: Evidence from Yape in Peru. Journal of Business Research, 168, 114-128.
- Kumar, V., Nim, N., & Agarwal, K. (2020). Platform-based mobile payments adoption in emerging and developed countries: Role of perceived risk. Journal of International Marketing, 28(2), 72-89.
- Kurniawan, A., Wahyuni, S., & Valentina, T. R. (2019). Digital wallet architecture and security mechanisms. International Journal of Engineering and Technology, 8(3), 234-241.
- Libaque-Saenz, C. F., Wong, S. F., Chang, Y., Ha, Y. W., & Park, M. C. (2024). Understanding the economics of digital wallets: Open-loop versus closed-loop systems. Telecommunications Policy, 48(2), Article 102689.
- Mainetti, L., Marasciuolo, P., Paiano, R., Panarese, A., Semeraro, A., & Zaccaro, F. (2023). Digital wallet adoption: A systematic literature review. In A. Visvizi & O. Troisi (Eds.), Research and innovation forum 2022 (pp. 447-462). Springer.
- Melo, C. O., Cruzes, D. S., Kon, F., & Conradi, R. (2013). Interpretive case studies on agile team productivity and management. Information and Software Technology, 55(2), 412-427. https://doi.org/10.1016/j.infsof.2012.09.004
- Mittal, R. (2025). Agile coaching in regulated banking environments. Agile Journal, 14(1), 22-38.

- Nerur, S., Mahapatra, R., & Mangalaraj, G. (2005). Challenges of migrating to agile methodologies. Communications of the ACM, 48(5), 72-78. https://doi.org/10.1145/1060710.1060712
- Nikiforova, O., Babris, K., Miļūne, M. K., Tanguturi, N., & Pastor, Ó. (2025). Key artefacts in the initial phases of IT project management: Systematic mapping study. Proceedings of the 20th International Conference on Evaluation of Novel Approaches to Software Engineering (ENASE 2025), 773-781. https://doi.org/10.5220/0013471000003928
- Nizamuddin, M. (2026). Scrum under pressure: Reflections on regulated banking projects. Banking Technology Review, 19(1), 56-71.
- Noteboom, C., Sutterfield, J. S., & Knight, M. B. (2021). Transitioning to agile project management: An organizational perspective. International Journal of Information Technology Project Management, 12(3), 38-54.
- Paul, J., & Rosado-Serrano, A. (2019). Gradual internationalization vs born-global/international new venture models: A review and research agenda. International Marketing Review, 36(6), 830-858. https://doi.org/10.1108/IMR-10-2018-0280
- Paul, J., Parthasarathy, S., & Gupta, P. (2021). Platform ecosystems and brand extension: Evidence from super apps. Journal of Business Research, 125, 371-384.
- Pichler, R. (2016). Strategize: Product strategy and product roadmap practices for the digital age. Pichler Consulting.
- Project Management Institute. (2017). A guide to the project management body of knowledge (PMBOK® Guide) (6th ed.). Project Management Institute.
- PwC. (2021). Running agile in a regulatory programme: Balancing speed and control in financial services. PwC Financial Services. https://www.pwc.com
- Román-García, S., Herrera-Damas, S., & Pérez-Escoda, A. (2024). ESG integration in fintech: Sustainable digital wallet design. Sustainability, 16(3), 1025. https://doi.org/10.3390/su16031025
- Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students (8th ed.). Pearson Education.
- Schwaber, K., & Sutherland, J. (2020). The Scrum guide: The definitive guide to Scrum, the rules of the game. Scrum.org. https://scrumguides.org

- Schwarzbach, B., Zimmermann, A., & Baumann, T. (2025). Balancing agility and compliance in financial services. European Journal of Information Systems, 34(1), 45-63.
- Seddiki, A. (2023). Financial technology and the transformation of the Algerian banking sector. Revue Algérienne d'Économie et Gestion, 14(1), 112-131.
- Serrador, P., & Pinto, J. K. (2020). Does agile work? A quantitative analysis of agile project success. International Journal of Project Management, 38(5), 1040-1051.
- State of Agile Report. (2022). 16th annual state of agile report. Digital.ai. https://digital.ai/resource-center/analyst-reports/state-of-agile-report
- Sutticherchart, K., & Rakthin, S. (2023). Product management capabilities and organizational performance. Journal of Product Innovation Management, 40(2), 234-251.
- SwissBanking. (2024). Digital wallets: Definition, architecture and future trends. Swiss Bankers Association. https://www.swissbanking.ch
- Tena Zuzek, A. (2020). Agile beyond software: Applying agile principles to organizational design. Kogan Page.
- US Payments Forum. (2018). Digital wallet integration: Technical and business considerations. U.S. Payments Forum White Paper. https://www.uspaymentsforum.org
- van der Vlist, F. N., Helmond, A., Dieter, M., & Weltevrede, E. (2024). Super-appification: Conglomeration in the global digital economy. New Media & Society, 27(6), 3421-3444. https://doi.org/10.1177/14614448231223419
- World Bank. (2021). The global findex database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Group. https://www.worldbank.org/globalfindex
- Wróbel, M. R., Sedlak, B., & Zając, M. (2023). Scrum anti-patterns: Identification and mitigation strategies. Information and Software Technology, 157, Article 107155.
- Yassir. (2025a). FS Yassir Cash product feature playbook [Internal documentation]. Yassir.
- Yassir. (2025b). FS roadmap Q3 2025: Sprints 25.18 to 25.26 [Internal documentation]. Yassir.
- Yassir. (2025c). Wallet integration technical specification [Internal documentation]. Yassir.
- Yassir. (2025d). Onboarding PRD and KYC user stories [Internal documentation]. Yassir.
- Yassir. (2026). Présentation de Yassir: Company overview and strategic positioning [Internal company presentation]. Yassir.

REGULATORY DOCUMENTS

- Algeria. (2024). Regulation No. 24-04 on electronic money and payment services. Official Gazette of the People's Democratic Republic of Algeria.
- Algeria. (2025). Regulation No. 25-02 on digital payment service providers. Official Gazette of the People's Democratic Republic of Algeria.
- Bank of Algeria. (n.d.). Algerian monetary and banking law. Bank of Algeria. https://www.bank-of-algeria.dz

WEBSITES AND ONLINE RESOURCES

- Design Council. (n.d.). What is the framework for innovation? Design Council's evolved double diamond. Retrieved January 15, 2026, from https://www.designcouncil.org.uk/our-resources/framework-for-innovation/
- Next Gen Product Leaders. (n.d.). What is product management? Retrieved January 10, 2026, from https://nextgenproductleaders.com/what-is-product
- Scrum.org. (n.d.). The Scrum framework. Retrieved December 20, 2025, from https://www.scrum.org/resources/what-scrum-module
- Team Topologies. (n.d.). Case study: From component teams to Team Topologies to fast agile. Org Topologies. Retrieved February 1, 2026, from https://orgtopologies.com/post/case-study-from-component-teams-to-team-topologies-to-fast-agile

APPENDIX

A. Semi-Structured Interview Guide

Thesis: Implementation of Agile Methodology in Integrating Digital Wallets in a Super Application: Case Study of Yassir Cash

Master's Thesis, ENSM Kolea, Entrepreneurship and Project Management

Thank you for agreeing to take part in this research. I am a Master's student at the National School of Management in Kolea. I am working on my final dissertation, which is about the application of the Agile-Scrum methodology in the development and integration of Yassir Cash in the Yassir super app. This interview is part of a qualitative case study where your experience working directly on this product is at the heart of my research.

This is a semi-structured interview, so I have a set of questions that I am prepared to ask, but I am really interested in hearing your side of things also. You can steer the conversation whichever way you think is important. There are no right or wrong answers, what matters is your honest account of what happened in practice. If you don't mind, I'm going to record this session for transcription purposes only." You will be completely anonymised in the final thesis unless you explicitly agree otherwise. The session should be 45-60 minutes in length.

BLOCK 1: AGILE-SCRUM IN THE REALITY

Q1. How was the team structured to work on Yassir Cash, who was involved, what were the roles and how was the team organized day to day?

Q2. Can you walk me through what a typical sprint looked like at Yassir Cash, starting from the beginning of a sprint and ending when something was shipped?

Q3. How did you manage and prioritize the product backlog, who decided what went in and what came out, and what was built first?

Q4. What tools does the team use to manage work (Jira, Notion, Miro, Slack) and how did you use them in practice (not just in theory)? Figma,

Q5. What did the team mean by done, what had to happen before something was considered done and ready to ship?

BLOCK 2: RESEARCH AND IMPLEMENTATION

Q1. Can you walk us through the journey of a new feature idea from the first concept to a backlog item ready for a sprint? Give us a real example.

Q2: Did you do user research before building features? Like real users or drivers or agents used to validate ideas before starting dev?

Q3. Who wrote the Product Requirements Documents for Yassir Cash features? How much detail did they go into? How much weight did they carry during development?

Q4. How did discovery and active sprint delivery work together – were they in parallel or did one tend to block the other?

BLOCK 3: RESTRICTIONS, GAPS AND IMPROVEMENTS

Q1. What were the biggest constraints/limitations imposed by the Algerian regulatory environment on the way the team worked – and how did those constraints manifest themselves within the sprint process?

Q2. Where did you see the biggest gap in the communication or coordination, product and engineering, QA and developers, Core Squad and Mobile Squad?

Q3. What Agile or Scrum practices do you think were not applied or applied wrongly or deliberately skipped during the development of Yassir Cash?

Q4. If you could do the development of Yassir Cash all over again starting from today, what is the one thing you would change about how the team worked and why does that one change matter the most to you?