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Management in product IT companies: new organisational approaches and personnel challenges

The global shift from service-oriented to product-based business models in the IT industry has led to profound transformations in corporate strategy, organizational structure, and workforce composition. This article explores the defining features of product IT companies, distinguishing them from traditional service providers through their proprietary product ownership, long-term strategic orientation, and cross-functional team models. It presents a multi-layered classification of product IT companies by product type, business model, and lifecycle stage, focusing on their increasing specialization across industry verticals. Furthermore, the paper analyzes key workforce transformations driven by two interrelated forces: the evolution of product-based business logic and the integration of artificial intelligence (AI) technologies. The growing demand for interdisciplinary, non-engineering roles, such as product managers, UX designers, and data analysts, highlights the necessity of hybrid skills and adaptability in the digital era. Simultaneously, AI is reshaping job profiles, automating routine tasks, and introducing new hybrid roles like AI product strategists and prompt engineers. These trends necessitate a rethinking of talent strategies and call for continuous upskilling, internal leadership development, and agile HR policies. The article draws upon recent academic and industry research to show that structural adaptability, strategic alignment, and a dynamic approach to workforce development are becoming critical to competitiveness in product-oriented IT enterprises. The study also outlines future directions for research on human-AI collaboration and meta-competency cultivation in digital product teams.

Keywords: *product IT companies; organisational transformation; workforce structure; artificial intelligence integration; interdisciplinary roles.*

Statement of the problem. Over the past decade, the information technology (IT) industry has evolved into a foundational component of economic development within individual domestic economies and across the global market. As digital products increasingly permeate daily life and reshape interactions across industries, their maturation has brought about new management challenges that, in turn, catalyze profound transformations within the IT industry itself. These shifts directly affect corporate strategy, organizational design, and workforce composition. In recent years, one of the most significant trends in the IT industry has been the shift from service-oriented to product-driven business models. This shift has been accompanied by a sharp rise in product IT companies worldwide. More than just a change in how value is delivered to end users, this transformation has deeply affected companies' internal structures, most notably in workforce composition and talent management.

Concurrently, the rapid advancement of artificial intelligence (AI) technologies is fundamentally reshaping business processes. A growing share of routine and repetitive tasks is being automated; according to the Future of Jobs Report by the World Economic Forum (WEF) (2025), the share of tasks carried out by human labor is expected to decline to 33 %, while automation is projected to account for 33 % of all functions by 2030, with the remaining 34 % performed through human-machine collaboration [1, p. 26–27]. This paradigm shift implies a high risk of displacement for fundamental operational roles, particularly at the entry – level, such as data entry clerks, content reviewers, and administrative support staff. Also, new hybrid roles are emerging, including prompt engineers and AI product strategists.

There is a growing demand for interdisciplinary competencies integrating technical proficiency with business logic, communication skills, and creative thinking. In this context, non-engineering roles are undergoing a process of redefinition, accompanied by an increased demand for marketing, product management, data analytics, UX design, and customer support professionals.

Analysis of research and publications. There has been a growing reassessment of traditional approaches to organizational structure, strategic management, and talent management policies within IT companies. Both academic and industry-based studies emphasize that structural adaptability and strategic alignment are critical enablers of competitiveness in digital enterprises.

Thus, an analytical study of Amazon, Netflix, and IBM (2023) underscores that transitioning to flexible, matrix-based, or product-oriented organisational structures enables more agile responses to market dynamics and fosters innovation management effectiveness [2]. This finding is reinforced by Yang (2023), who, based on a systems approach, demonstrates a positive correlation between horizontal management models and employee development within the tech industry [3]. Research further explores strategic alignment that integrates IT

strategy, business orientation, and organisational architecture. These studies highlight the necessity of harmonizing long-term vision with internal processes to enhance innovation capacity [4]. Additionally, the role of structural transformation in strategic planning is emphasized, particularly through strengthened internal communication and the mitigation of change resistance [5]. Some research addresses talent strategies in the digital sector. For instance, the study of HireCall, a full-service staffing company, argues that strategic workforce management in IT companies extends far beyond traditional recruitment, positioning it as a lever for long-term value creation. Key elements include proactive workforce planning, internal talent development, and the formation of high-performing teams in volatile environments [6].

Also, the transition of IT Companies from project-oriented to product-based models is examined in scientific sources. In particular, Karhu (2023) discovered, that the transition to a product model requires not only process adjustments but also a fundamental cultural transformation, namely organizational culture change, durable product teams, a sustained focus on customer value, and the adaptation of business metrics, which can be regarded as essential success factors. Particular attention is given to leadership dynamics, ongoing feedback mechanisms, and internal communication [7].

Taken together, contemporary scholarly approaches to studying IT companies increasingly emphasize the systemic interdependence between organizational design, strategic development, and workforce policy. This integrated perspective provides a robust foundation for developing new management models that can provide growth and competitiveness for digital-driven enterprises in an increasingly dynamic global environment.

Nevertheless, product IT companies continue to evolve under the influence of diverse internal and external pressures. Issues related to organizational design and workforce strategy remain crucial to both academic inquiry and industry practice.

The article aims to examine global trends in the transformation of workforce structures within product IT companies, with a particular focus on the dual influence of business model evolution and AI integration. Special attention is given to the classification of product company types, the evolving distribution of engineering and non-engineering roles, and the shifting dynamics of workforce strategy in the digital era.

Presentation of the main material. *Product IT companies as a distinct business model: differentiation from service ones and approaches to classification.* Within the contemporary IT industry, product IT companies have emerged as a distinct business model that differs significantly from service companies regarding value creation logic, workforce composition, and strategic orientation. The development of these companies can be contextualized within the broader evolution of the IT sector, which has progressed from outstaffing and outsourcing models to the rise of fully integrated product models [8].

Service companies typically focus on delivering IT services upon client request, often within fixed contractual frameworks. In contrast, product companies run the entire lifecycle of their proprietary offerings, encompassing product development, market launch, growth, and the establishment of sustainable revenue streams through monetization strategies. These fundamental differences shape divergent approaches to corporate management, team structures, and long-term planning across the two business models.

Given the findings of scientific and industry studies [9–11], there are three distinctive characteristics of product IT companies, compared to service ones, namely:

1. Proprietary Product Ownership. Product companies invest in the development of unique, proprietary products or platforms. Their revenue streams are typically derived from licensing, subscriptions, or advertising, commonly through freemium models. This structure enables greater flexibility in strategic planning but demands a deeper understanding of market dynamics and end-user needs;

2. Long-Term Strategic Orientation. Product development requires a long-range vision, incremental enhancement, and scalable infrastructure. Unlike the project nature of service companies, product ones emphasize team continuity, a culture of continuous improvement, and deep immersion in user behavior and expectations;

3. Multidisciplinary Team Structures. Product teams are typically cross-functional, integrating professionals from engineering, marketing, UX/UI design, data analytics, and customer support. This configuration enhances iterative hypothesis testing and fosters a more nuanced understanding of user experience and product-market fit.

Table 1 summarizes and contrasts the defining characteristics of product and service IT companies.

A distinguishing feature of contemporary product IT companies is their growing industry focus. For instance, at present, clearly defined verticals such as FinTech, MedTech, EdTech, Gaming, AI/ML, to name but a few, have taken shape [12, p. 13]. This reflects a simultaneous broadening of business processes and specialization in specific market segments or product types. Hence, product companies tend to adopt a strategic approach that is long-term, flexible, and user-centric [8]. As a result, product companies' organisational structure differs substantially from service companies. It demands stronger internal coordination and a wider range of staff competencies while creating greater opportunities for innovation, scalability, and professional development.

Table 1

Key characteristics of product and service IT companies

Characteristic	Product Company	Service Company
Core Activity	Development, advancement, promotion, and monetization of proprietary products	Provision of services / development of digital solutions on a contractual basis
Revenue Source	Direct product sales, subscription models, advertising (digital business models)	Payment for billable hours, project-based financing
Innovation	High strategic focus on innovation	Dependent on client requirements
Strategic Focus	Building long-term user relationships, flexible strategic orientation	Fulfilling client tasks in accordance with technical specifications
Marketing	Strategic role in the company's activity	No practically observed
Team Structure	Cross-functional teams with long-term engagement	Temporary project-based teams
Adaptability to Change	High autonomy in decision-making	Limited by contract terms and client requirements
Company Examples	Grammarly, Reface, MacPaw	SoftServe, Luxoft, EPAM

Source: based on [9, 12]

Having outlined the key distinctions between product and service IT companies, it is essential to further explore the internal diversity within the category of product companies. This can be achieved by classifying them according to their product types (table 2), company lifecycle stages (table 3), and business models (table 4).

Table 2

Classification of product IT companies by product type

Type	Examples	Key Characteristics
B2C Product Companies	Grammarly, Reface	Focus on end-users, user experience (UX), marketing, monetization through subscription or advertising models
B2B Product Companies	PandaDoc, Restream	More complex solutions targeting business needs, sales driven by dedicated sales teams
B2G (GovTech)	eHealth systems, Diia	Focus on public sector procurement, compliance with security and interoperability requirements

Source: based on [9]

Product companies vary based on their target market. B2C companies prioritize individual UX and marketing strategies, B2B companies address complex business needs through professional sales processes, and B2G (GovTech) solutions focus on meeting government procurement and security requirements.

Table 3

Classification of product IT companies by company lifecycle stage

Category	Description	Applied Characteristics
Startups	Early stages, Minimum Viable Product (MVP), search for Product-Market Fit (PMF)	Versatile workforce, frequent pivots
Scale-ups	Market expansion, team scaling, attracting investments	Need for middle management and product management expertise
Mature Companies	Stable profitability, structured processes	High demand for specialized talent, compliance management, and customer support services

Source: based on [9]

Product companies evolve through distinct successive stages. Startups, the first one, emphasize experimentation and team versatility; the next one – scale-ups, require structured growth and specialized

management, and the last one (at least, as of now) – mature companies, prioritize operational stability, compliance, and dedicated customer support functions.

Table 4

Classification of product IT companies by business model

Model	Key Focus	Examples
Freemium	Basic functionality is provided free of charge, with premium subscriptions, paid add-ons, and/or additional features	Spotify, Canva, Grammarly, Zoom
Software-as-a-Service (SaaS)	Cloud-based services delivered via subscription	Jira, GitLab, Dropbox, Salesforce, Notion, Figma
Marketplace	A platform enabling interaction between users	Airbnb, Uber, Etsy, Upwork
Product-Led Growth	Product drives user acquisition through superior UX, without relying on active sales efforts	Miro, Calendly, Notion, Slack
Platform-as-a-Service (PaaS)	Providing infrastructure or platforms to enable the development of other products	Firebase, Stripe

Source: based on [8, 9]

These are the most widespread models used by product IT companies. They adopt different business models and sometimes conceive ones to generate value.

Workforce structure and its transformation in product IT companies. For many years, the workforce structure of IT Companies was predominantly centered around engineering roles, such as software developers, QA engineers, system administrators, and DevOps specialists. However, with the industry-wide shift toward product-based models and the intensifying global competition, there has been a growing demand for non-engineering roles that enable developing, promoting, and maintaining complex digital products. In light of the article's purpose, it is important to outline the following tendencies in workforce transformation.

The first tendency that is supposed to be considered is the emergence of new roles and surging demand for interdisciplinary skill sets. Contemporary product IT companies are increasingly incorporating positions such as product managers, customer success managers, UX/UI researchers, content strategists, data analysts, and growth marketing specialists, i.e. professionals who collectively support the end-to-end lifecycle of a digital product, from ideation and development to monetization and user support. The demand for these non-engineering roles is expected to be growing at a faster pace than for traditional engineering positions [13]. The WEF forecasts that by 2030, the most in-demand skills across all professional domains will include: AI and big data expertise (100 %), flexibility and adaptability (79 %), creative thinking (75 %), digital fluency, and reskilling capacity [1, p. 37]. It aligns closely with the hybrid demands of product teams that blend strategy, creativity, and data fluency. The labor market increasingly values professionals with not only deep technical expertise but also strong cross-functional collaboration skills, business acumen, UX literacy, data analysis proficiency, and communication capabilities [14].

The second tendency worth considering is the impact of AI on workforce structures. The integration of AI is reshaping the workforce architecture of product IT companies, affecting both individual functional roles and broader organizational logic. The initial impact of automation is most evident in routine technical and administrative roles such as data entry clerks, QA testers lacking analytical functions, and content moderators. In parallel, new hybrid roles have emerged, such as AI product strategist, AI trainer, and prompt engineer, combining technical proficiency with market insight, ethical reasoning, and design thinking. In April 2025, Microsoft CEO Satya Nadella stated that up to 30 % of the company's internal code is now generated by AI, with some projects reaching 100 % AI-generated output [15]. These developments are redefining team requirements: there is growing demand for product leaders who can formulate specifications for AI systems, manage quality loops, and test hypotheses informed by model behavior. As a result of AI pressure, team structures are shifting: junior roles are shrinking, while middle and senior professionals are assuming greater interdisciplinary responsibilities, requiring not only technical adaptability but also heightened cognitive and strategic agility. According to the WEF (2025), demand for roles such as AI and ML Specialists, Product Managers, UX Designers, and Digital Transformation Specialists is expected to rise sharply, while routine and junior-level technical roles (e.g., data entry, QA without analytical components) are likely to decline due to automation. The report also predicts that by 2030, automated functions will surpass human-executed tasks, underscoring the imperative for IT companies to redesign their workforce architecture in response to AI integration [1, p. 19, 25–27].

The report The Future of Product Management in 2025 anticipates that AI adoption will redefine not only how products are built, but also the fundamental nature of product management. Product managers are no longer process coordinators; they are strategic leaders responsible for shaping product trajectories by orchestrating teams, data, and algorithms [16]. Gartner underscores that to remain relevant, product professionals must rapidly acquire competencies related to AI-first products, including advanced data literacy, model logic comprehension, and ethical decision-making [17]. As Microsoft CTO Kevin Scott stated, product managers are now increasingly responsible for training AI agents, shaping feedback loops, and defining success metrics. In other words, product managers have to deal with tasks that demand deep domain expertise and ownership of quality cycles, thereby elevating the strategic weight of the product function in product teams [14].

All the above-mentioned facilitate the shifting of HR Strategies within product IT companies. McKinsey's findings reveal that product companies are moving from rigid hierarchical structures to agile, cross-functional team models. Here, the emphasis is less on narrow technical skills and more on meta-skills: learning agility, rapid decision-making, and multidisciplinary collaboration. HR strategies increasingly focus on internal leadership development, talent acquisition from adjacent domains (marketing, design, analytics), and cultivating a resilient, continuously learning organisational culture.

The rise of hybrid and meta-competencies is pushing employers to invest heavily in reskilling initiatives. According to global forecasts, 85 % of companies are planning structured reskilling programs, and 70 % prioritize hiring candidates with new skills over promoting based on tenure [1, p. 52]. These shifts pose significant challenges to traditional educational models, which often lag behind the pace of business transformation.

Ultimately, the evolving workforce structures in product IT companies enable greater agility, innovation capacity, and competitiveness. This multidimensional transformation allows such companies not only to maintain their market positions but also to lead the broader shift in employment structures across the tech industry.

Conclusions and prospects for further research. In the digital economy, product IT companies are emerging as key drivers of innovation and competitiveness. Their evolution from service-based models entails not only technological advancements but also significant shifts in how organizations are structured and how talent is managed. The transition to a product-based approach has introduced the need for proprietary product development, cross-functional teams, and long-term strategic planning. As AI technologies become embedded in core business processes, these companies are also witnessing a reconfiguration of their workforce architecture. Traditional engineering roles are being complemented, and in some cases replaced, by interdisciplinary, non-engineering, and hybrid positions that blend technical know-how with business and creative skills. The growing importance of product managers, UX designers, data analysts, and AI-related roles exemplifies this shift. These changes demand agile human resource strategies focused on continuous learning, internal talent development, and cognitive flexibility. Companies that successfully adapt their workforce strategies to these emerging demands will be better positioned to navigate uncertainty and sustain innovation. Further research should focus on the impact of human-AI collaboration on team dynamics and strategies to build future-proof skills within the evolving landscape of digital product management.

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Менеджмент у продуктових IT-компаніях: нові організаційні підходи та кадрові виклики

Глобальний перехід від сервісно-орієнтованих до продуктових бізнес-моделей в IT-індустрії призвів до глибоких трансформацій у корпоративній стратегії, організаційній структурі та кадровому складі. У статті досліджуються характерні риси продуктових IT-компаній, що відрізняють їх від традиційних провайдерів послуг завдяки володінню власним продуктом, довгостроковій стратегічній орієнтації та крос-функціональним командним моделям. Представлено багаторівневу класифікацію продуктових IT-компаній за типом продукту, бізнес-моделлю та стадією життєвого циклу, з акцентом на їхню зростаючу спеціалізацію по галузевих вертикалях. Крім того, проаналізовано ключові трансформації робочої сили, що зумовлені двома взаємопов'язаними факторами: еволюцією бізнес-логіки, орієнтованої на продукт, та інтеграцією технологій штучного інтелекту (ШІ). Зростаючий попит на міждисциплінарні, неінженерні ролі, такі як продакт-менеджери, UX-дизайнери та аналітики даних, підкреслює необхідність гібридних навичок та адаптивності в цифрову епоху. Водночас ШІ змінює профілі робочих місць, автоматизує рутинні завдання та впроваджує нові гібридні ролі, такі як розробники ШІ-продуктів та промпт-інженери. Ці тенденції вимагають переосмислення стратегій управління талантами, постійного підвищення кваліфікації, розвитку внутрішнього лідерства та гнучкої кадрової політики. Стаття спирається на останні академічні та галузеві дослідження, щоб показати, що структурна адаптивність, стратегічне узгодження та динамічний підхід до розвитку персоналу стають критично важливими для конкурентоспроможності продуктових IT-компаній. Дослідження також окреслює майбутні напрями досліджень співпраці людини і ШІ та розвитку мета-компетентностей у командах, що займаються розробкою цифрових продуктів.

Ключові слова: продуктові IT-компанії; організаційна трансформація; структура робочої сили; інтеграція штучного інтелекту; міждисциплінарні ролі.

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