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Corporate innovation strategies: an exploratory study of innovation processes, domains and decision drivers in the beauty industry.

Relatori:
Marco Cantamessa
Chiara Succi

Candidata:
Camilla Solidoro

Summary

1. Innovation strategies in large firms

1.1 Introduction and scope of the analysis

When considering the meaning of the word "**innovation**", it is key to highlight how it differs in meaning from the term "invention": while an invention can be described as deriving from the scientific and creative genius of people who discover or devise a new solution to a problem, the concept of innovation surpasses that since it encompasses the entire business process which enables the proper introduction and commercialization of the solution in the market. In this context, innovation is less about ideation and more about execution, marketing, and impact, and was indeed defined by Roberts (1987) as the "economic exploitation of an invention." This perception emphasizes organizational ability, strategic choice, managerial capabilities and market forces in defining the innovation process, and further highlights how it is not sufficient for companies to develop new ideas or technological innovations, but they must also be able to successfully integrate these innovations into their business models so that they can create value and build competitive advantage.

Innovation is indeed not a singular occurrence, but a dynamic and multidimensional process fueled by multiple internal and external drivers. In this context, the selection of the appropriate innovation process is a key driver of a company's ability to adapt and thrive in a more competitive and fast-evolving technological context. Firms can follow different innovation strategies, including open innovation (OI), internal development, and strategic partnerships, depending on the complementarity of the knowledge domain, the strategic significance of the innovation, and the level of technological and market uncertainty.

The significance of innovation strategy to business corporation is why it is the aim of this chapter to provide the reader with a structured and comprehensive presentation of corporate innovation processes, exploring the most relevant determinants of an innovation strategy selection. Specifically, we seek to identify the strategic drivers that shape companies' innovation strategies, with a focus on competency building as a vehicle of long-term survival and competitiveness. An essential component of such

analysis is **interaction between a firm's existing stock of knowledge and its innovation trajectory**: even though knowledge and intellectual capital's role has been extensively theorized in literature with respect to developing corporate innovation strategy, the fact remains to understand how exactly such dynamics interact in reality and how a choice of one or another innovation process for a firm is determined.
To respond to this question, we will investigate whether academic literature provides evidence of a trend towards specific innovation processes with respect to three significant dimensions.
The first dimension is the intensity of the relationship between the new knowledge field and the core business of the firm (**business relatedness of the knowledge field**).
This driver considers how much the new field of knowledge's affinity with the existing expertise of the firm influences the choice between developing it internally, collaborating with external parties, or Open Innovation approaches. Firms have the tendency to develop the innovation internally when it is strongly related to the firm's core competency, so that they can build upon what they have now. Conversely, if the knowledge domain is distant from the company's field of competence, firms may opt for external or collaborative methods.
The second consideration is the strategic significance of innovation to business success and survival (**strategic importance of innovation**): firms that see innovation as key to maintaining their place in the market and achieving long-term survival are more likely to develop it internally or through structured alliances that allow them to retain control and fully incorporate new capabilities into their existing operations. Conversely, when innovation is viewed as a more complementary or discovery process—something that enriches the firm's product or service but is not critical to its existence—firms may employ Open Innovation models or collaborate with startups to access new ideas and technologies with greater flexibility and less obligation.
The third dimension is the **volatility and technological uncertainty** of the innovation domain: the more volatile and uncertain the innovation landscape, the more companies will likely try to externalize the process and, consequently, the risk of investing heavily on technologies that might be already obsolete by the time they reach the daylight.

By analyzing these three dimensions, we attempt to shed light on corporate innovation strategies' driving forces and mechanisms of how companies deal with the evolving dynamics of technological change and competition.

1.2 Large firms' role in the innovation landscape

When companies innovate, they present a new solution to a previously faced issue, basically converting an invention into an innovation. This is achieved when an innovation in the form of a new concept or product is successfully launched, embraced by customers, and possesses a tangible advantage that warrants its production cost. One of the key variables here is pricing, as customers must perceive the value of the product to be higher than its price for it to gain traction in the market (Roberts, 1987).

This refers to the very significant role that companies, particularly affirmed ones, have to play in the innovation process: the linear model of innovation explains that preliminary stages—such as basic and applied research—are primarily started by universities and government departments, but when innovation translates from theory to practice, the stage is occupied by private actors that set the course from demonstrators, i.e., proof-of-concept technology with established technical feasibility, to successful products in commerce. This process of delivery to the market involves closing critical business gaps, such as price strategy, market positioning, and industrial scaling up, all of which constitute or destroy an invention's probability of becoming successful innovation. With the innovation processing further down the linear model, risks keep decreasing while financial return opportunities are increasing, and private actors assume progressively a more and more dominant role, investing in R&D, enhancing manufacturing, and adopting market deployment tactics to facilitate effective new product adoption (Cantamessa and Montagna, 2023).

The literature on innovation has extensively explored the various private actors in the innovation process. For the purposes of our analysis, however, we are concerned with the established firms and their position in the innovation system. Schumpeter's work on large firms (1942) is specifically relevant here to understand their position and impact on technological progress and market forces.

Joseph Schumpeter's early view of innovation, or Schumpeter Mark I, was centered on the small firms and entrepreneurs as the primary drivers of technological innovations. He later modified his position to recognize that large established firms also play an equally—if not a more—vital role in advancing innovation. This revised view, designated Schumpeter Mark II, describes an innovation landscape dominated by big firms that invest in R&D in a systematic way, exploit economies of scale, and leverage established competencies to produce incremental and, in some cases, revolutionary improvements in technology and business processes. In distinction to the volatile and unreliable dynamics of entrepreneurship-driven innovation, Schumpeterian large corporations have structured models of innovation revolving around sustained improvement and enduring superiority in technology to maintain market domination.

Anyway, even if widely used in the academic world, the Schumpeterian definition of the role of large firms across the innovation chain is tied to the economic dynamics of his time. More recently, the role for the large firms in the innovation chain has been identified by Doughery and Dunn (2011), that in their research explained how nowadays innovation is not any longer a corporate function but instead emerges from interconnected ecosystems that include large corporations, smaller businesses, non-profit organizations, and public institutions. In such ecologies, **large firms are at the center as innovation orchestrators** utilizing their resources and position in a beneficial way to structure knowledge, keep innovation projects running, and shape industry standards.

According to their study, the primary contribution of large firms in such innovation ecologies is indeed their ability to aggregate and structure knowledge skills between projects so that innovations are not isolated but rather feed into more comprehensive technological development. In addition, their long-term vision allows them to have constant flows of innovation in products and services, so they are strong industry drivers for change. Also, by affecting regulatory environments and industry standards, these firms provide a setting within which technological advance can be appropriately commercialized and scaled.
Apart from knowledge management and strategy, big firms act as coordinators of

industry-wide R&D efforts, usually leading collaborative networks and consortia that pool resources to tackle difficult challenges, and their ability to invest in foundational technologies provides smaller rivals and start-ups with platforms for further advancement.

Lastly, as market forces and competitive pressures propel the innovation landscape, the role of major companies remains critical to guaranteeing that not only are innovations conceived but also commercialized and integrated into society. Their strategic position, capital, and ability to coordinate across industries allow them to bridge the invention-to-adoption gap and hence remain central figures in the current innovation system.

Defined the role of large firms in the innovation ecosystem, we will now focus on how the big player themselves are impacted by the different kinds of innovation.

1.3 Classification of innovation and impact on large firms

In literature, there are many ways of categorizing innovation, that consequently can be classified depending not only on the criterion being used (e.g. technological or architectural perspective) but also on the position in the value chain of the actor being considered, i.e. the same innovation can have different impact on different actors in the market and so be classified alternatively by each (Afuah and Bahram 1995)
For the scope of our work, we may want to analyze the following classification methods:

1. From the standpoint of **knowledge needs, innovations may either be competence-enhancing or competence-destroying** (Tushman and Anderson, 1990). Competence-enhancing innovations ride on a firm's current knowledge, enabling it to develop and refine its competencies through learning by doing. Competence-destroying innovations make existing knowledge outdated, and firms need to obtain entirely new and possibly unrelated competencies to stay competitive.

2. Where their impact on **product functionality** is concerned, **innovations are either peripheral or core**. Core innovations significantly reconfigure a product's primary functions, whereas peripheral innovations alter secondary or ancillary functions without really changing the overall character of the product (Cantamessa and Montagna, 2023).

3. **Regarding markets, innovations are sustaining or disruptive** (Christensen, 1997). Sustaining innovations reinforce the existing competitive dynamics, without revolutionary changes in market positions and shares. In contrast, disruptive technologies can overhaul industries in a fundamental way, causing incumbent players to collapse or exit the market, and enabling new entrants. The entrants can either be de alio entrants—firms transitioning from other sectors—or de novo entrants, which can be start-ups that were previously outside the industry.

These 3 classifications help explaining the strategic choices of companies when it comes to innovation. Indeed, depending on whether an innovation is competence-enhancing or competence-destroying, core or peripheral, and sustaining or disruptive, companies can assess risk, allocate resources, decide one's long-run competitive strategy and choose the innovation process to be used to pursue it.

For example, competence-enhancing innovations give companies a natural edge if they can build on established knowledge and capability, while competence-destroying innovations are a challenge for firms because they have to determine if they will spend money to establish new knowledge internally, in terms of R&D and retraining, or externally, in terms of partnerships, acquisitions, or exit from the market. These decisions determine whether a company will survive or lag behind with regard to revolutionary technological changes.

In a similar way, core innovations, which impact the basic functionality of the product,

tend to demand high investment and strategic effort, while peripheral innovations can act as low-risk differentiators that deliver customer experience without affecting current operations. Dominant firms in markets are more likely to balance both so that they lead in the latest technology while also enhancing their offerings in order to sustain customer interest, but they might be using different instruments to deal with them.

Lastly, from a business perspective, companies must examine whether an innovation is sustaining or disruptive and respond accordingly. Sustaining innovations are advantageous to existing players since they build on established competitive roots, and companies can fortify their positions. Disruptive innovations are a major risk since they can turn industry dynamics upside down, wiping out established players and opening the door for new participants. Companies must choose to fight back by incrementally improving, move towards new business models, or embrace disruption through aggressive investment in new technologies.
With these elements in mind, we'll now define in a more precise way the concepts of competences and knowledge to understand how they might influence the strategic choices of the firms.

1.4 Firms managing innovation: knowledge, competences and capabilities

With the objective of better understanding what drives the strategic choices of firms when it comes to innovation and how they select the processes and instrument to pursue it, and to understand the connection between innovation and competitive advantage, we must explain its relationship with the firm's **knowledge, competences, and capabilities.** These are indeed the building blocks of technological development and strategic choice, and they influence how companies respond to market forces and contribute to technological development, especially to exploit existing knowledge while exploring new frontiers. This is clearly an incredibly vast topic that has been thoroughly explored in the literature, but for the sake of our work we just want to clarify some key

points to further proceed smoothly with our logic flow.

Starting from the concept of knowledge, it can be said that firms tap into two broad categories of knowledge: **scientific knowledge**, providing a theoretical foundation, and **technological knowledge**, being about practical application. Technological knowledge, that is the one companies mainly deal with, is what gets embedded in firms through the process of combining tacit and explicit knowledge: while tacit knowledge is experiential and difficult to codify, and consequently often bound to specific peoples, explicit knowledge is easily documentable and communicable, and so is a patrimony for the company independently form the people working there (Cantamessa and Montagna 2023) . This first and initial distinction is necessary to understand the different ways in which companies acquire knowledge, as defined by Huber (1991), as the method to learn clearly depends on the kind of knowledge to be acquired:

1. **Experiential Learning** (Learning by Doing): This is the process through which firms and their employees learn by actively engaging in activities and tasks. Experimentation and hands-on experience with technologies allow firms to gain more knowledge about processes and products, and this is the mechanism that typically takes place when companies decide to perform in house R&D activities. In this case, it is important to distinguish between *exploration and exploitation learning* (March 1990), as the first one takes place is when an organization is operating normally and performing its routines (i.e., it is exploiting its existing knowledge) and, in the process, it discovers some sort of improvement, thus creating new knowledge. On the other hand, exploration learning takes place when an organization is doing something that is purposely new (e.g., it is venturing into a new market or attempting new technology) and, in the process, it acquires new experiences and routines.
   Moreover, when applying this knowledge sourcing method, one of the biggest challenges for firms is avoiding competency traps, where exploitation focus leads to stagnation and inability to keep pace with disruptive change. Regarding this, firms with high absorptive capacity—i.e., the ability to absorb and utilize

external knowledge—are better placed to execute successful exploration without being constrained by organizational inertia.

2. **Vicarious Learning** (Learning from Other Sources): Firms also learn by watching other firms and learning lessons from outside: some examples are working together with universities, hiring consultants or reading scholarly research. Vicarious learning enables firms to learn about emerging trends and technology without incurring the associated costs and risk of directly experiencing it, but is tied to the *absorptive capacity* of the company (Cohen and Levinthal, 1990), as the new knowledge must be applied and added to the company routines. This learning method can also be applied in whatever circumstance where the company is trying to acquire an explicit it and codifiable knowledge.

3. **Learning by Grafting** (Acquisitions and Hiring): Learning by grafting is the learning by bringing in external knowledge into the firm. It can be achieved by employing knowledgeable workers, acquiring small firms with similar knowledge, or entering strategic partnerships. By bringing in new talent or acquiring other firms, companies, if they are good at integrating the new resources, are able to learn new information, skills, and technologies that they might not have otherwise. This situation applies also when the knowledge is implicit and embedded in people.

Passing to the competences, they are essentially the knowledge, skills, and expertise that the company has learned over the years. The competences are structured and embedded in the routines, processes, and systems of the company, which allow it to perform some activities effectively and efficiently. A company's **core competences** are those key capabilities that distinguish it from its competitors and provide it with a decisive competitive advantage. **Peripheral competences**, on the other hand, are those which, although vital to the firm's operation, are not central to its competitive standing. These competences support the firm's day-to-day operations and enable the firm to function effectively, yet they do not provide a unique benefit in the marketplace (nelson and Winter, 1982).

But competences alone are not enough for long-term success in a changing market. Firms must have the ability to leverage and reconfigure their competences as the market environment evolves. This brings us to the concept of capabilities, that refers to a firm's ability to commit and transfer its competences for the realization of strategic targets, reacting to changing market demands and capturing emerging opportunities. Capabilities are evolutionary in nature, and represent a firm's competency to synthesize, redesign, and utilize its competences such that they uphold or enlarge the firm's comparative advantage through the passage of time. Such capability to alter, redesign the availability of assets and resources to changing environments is often referred to as **dynamic capabilities** (Tecee 1997).
Dynamic capabilities are consequently a central part of modern competitive strategy, as they enable firms not only to maintain their current capabilities but also to innovate and change as new technological, market, or environmental advancements arise. On the dynamic capabilities depend indeed the ability to sense opportunities and threats, seize opportunities, realign resources and creating an organizational learning process that makes the firm able to compete effectively in a volatile environment.

Now that we have all the elements, we can proceed analyzing how the companies select the innovation instruments and processes to acquire new knowledge and competences thanks to their capabilities.

1.5 Firms managing innovation: processes and instruments

Building on the foundational principles of knowledge, competencies, and capabilities, it is now possible to explore how firms translate these into strategic choices for innovation. In the following section, we will explore some of the different trajectories, focusing only on the ones that are relevant for our study and observing the instruments companies have at their disposal to innovate while adapting to evolving market circumstances.

1. **Internal R&D** remains a fundamental strategy for firms ready to develop own capabilities with high appropriability and control over innovations, but it also presents challenges like path dependency and organizational inertia, which may limit external knowledge absorption and flexibility in response to change in the market. Indeed, research highlights the role of technological knowledge in top management in being able to direct R&D investments effectively (Cummings and Knott, 2018). In addition, Organizational Intelligence, as it was defined by Knott (2008), is also core in the mediation of R&D investment performance, theorizing that companies with more learning capability achieve higher innovation outcomes. This also stipulates that while internal R&D supports innovation independence, it operates to a great degree depending on the ability of the firm to handle knowledge dynamically, adjusting perpetually to emerging technology and market patterns.

2. **Partnerships** are a strategic alternative to in-house R&D, particularly when firms must seek for competences that cannot be accessed through conventional supplier contracts, as partnerships allow firms to bridge internal capability gaps, leverage resources, and accelerate innovation with outside know-how. Moreover, in rapidly evolving industries, partnerships allow firms to access new innovations without the time and cost of developing them internally.

   However, successful management of partnerships is a matter of finding the right balance between internal and external know-how to avoid over-reliance on the outside while capitalizing on the strengths of complementary knowledge (Hoang and Rothaermel, 2010). Moreover, research show long-term collaboration depends on strategic fit, shared objectives, and mutual commitment. Without clear objectives and aligned expectations, alliances can fail to produce meaningful innovation, leading to inefficiencies or intellectual property right disputes. Lastly, fruitful collaborations must be regularly managed trough exchanging information perpetually and mechanisms for trust building (Monteiro and Birkinshaw, 2017). Through creating robust network systems of collaboration, businesses can expand their innovation capabilities, reduce the

risk of development from scratch, and gain competitiveness in the target markets.

3. **Open Innovation (OI)** has transformed the innovation strategy of firms from closed R&D models to collaborative and externally integrated approaches. Chesbrough (2003, 2014) explains Open Innovation as a managed knowledge flow paradigm in which companies leverage external ideas, technologies, and collaborations to complement their internal innovation: he argues that closed innovation models, founded on firms depending only on their own internal R&D, are untenable in a knowledge world increasingly distributed, and where there are rapidly rising technological jumps. Firms, on the other hand, should leverage more open and loose strategies, drawing on knowledge from startups, universities, suppliers, and competitors too to accelerate their innovation cycles.

   About the possibility for the OI model to succeed, Monteiro and Birkinshaw (2017) highlight the key success factors in Open Innovation by referring to the importance of having formal programs and governance systems to coordinate external collaborations effectively. According to their research, successful firms in Open Innovation have certain units and plans that ensure alignment between internal and external innovation processes. They also insist that organizations need to develop absorptive capacity, where they can leverage external knowledge in order to add value to their own internal R&D efforts. Without such set-ups, Open Innovation programs would be siloed, thereby lead to inefficiency and missed opportunities. Another criticality is put forward by Boudreau et al. (2011), that write about crowdsourcing and innovation contests as strong Open Innovation mechanisms and argue that well-designed innovation challenges can produce breakthrough ideas at a fraction of the cost of conventional R&D, but they also caution that the effectiveness of these strategies depends on how well firms define problems they wish to solve and handle intellectual property rights. Without well-defined incentive schemes and well-designed participation rules, firms may struggle to get high-quality contributions or lose control over

innovations generated by these external networks, risking compromising themselves. Together, these perspectives emphasize the change potential of Open Innovation and the organizational challenges and strategic considerations businesses must overcome to be able to successfully leverage it.

Having now completed the theoretical overview and having explained the concepts that are necessary and foundational to our study and analysis, we will move forward understanding how all those concepts concur in the choices firms must make when selecting how to acquire new competences.

1.6 What drives firms strategic choices on innovation processes

As explained in the sections before, the acquisition of competences is fundamental for the survival and sustainment of the competitive advantage of the companies. This is why one of the key aspects of managing a company is to build the appropriate **competency portfolio** to pursue innovation, and as seen, to fulfill this goal there are different roads that one might be willing to follow. Going further, we now might want to understand the criteria that guide the process choice, and to introduce the topic it can be said that there are three key elements to be considered: at first, **the strategic value and knowledge domain relatedness of the innovation pursued**, secondly the **need for large companies to balance between exploration and exploitation**, and thirdly the uncertainty and **volatility of the innovation landscape.**

1.6.1 Elements and criteria driving the selection

Cantamessa and Montagna's work (2023) might help us introducing the first element. Indeed, as they explain in their book, for a company, competency management is more than just internal process and may extend to the entire value network it is a part of. By plotting competencies across the value chain, businesses can streamline knowledge transfer and facilitate more integrated innovation approaches involving pivotal players

within their network. This approach helps determine the optimal approach to develop a particular competency, that as seen can be either internal development, outsourcing to expert suppliers, or strategic alliance with complementors and customers.

The decision is considerably a matter of the strategic value of each competency. If a **competency lies at the heart of the company's competitive edge, internal development is typically the best approach**. By contrast, **generic and non-core competencies are generally best provided from external suppliers**, except on cost considerations. The most difficult case is that of **non-core but co-specialized competencies**—those requiring a firm-specific approach. Standard supplier contracts won't be viable in such scenarios, either because of the non-availability of suitable suppliers or the unwillingness of those poised to purchase such capabilities to make investments in the absence of long-term contracts and assurances. The firm must in such situations opt for **either internal development of the competency or for long-term partnership contracts**. Indeed, overlooking the need for co-specialized competencies can be a strategic mistake. Having identified the competencies needed, the company must then select the best method of development. This involves taking two significant trade-offs: the amount of time required to develop the competency versus the opportunity to realize its advantage, and the disparity of knowledge between the company and external sources. **The greater this disparity of knowledge, the stronger the case for internal development**.

For what concerns instead the second element, i.e. the need of companies to balance between exploration of new competences and exploitation of the current ones, we might want to mention the Gibson and Birkinshaw (2004) contribution. They developed indeed the concept of **organizational ambidexterity**, with the implication that a company can simultaneously achieve alignment and adaptability in a single business unit. As opposed to the traditional structural ambidexterity framework, where various units manage either exploration or exploitation, contextual ambidexterity focuses on creating an environment in which individuals are empowered to switch between the two as the situation demands. This balance is crucial because firms that overinvest in exploration risk doing too much experimenting without leveraging existing assets,

resulting in inefficiencies and forgone profits. Firms that focus on exploitation alone will maximize short-term efficiency but miss out on long-term innovation and fall into a competency trap.

In achieving this organizational ambidexterity, the role of both strategic alliances and internal development becomes fundamental: Rothaermel and Deeds (2004) explain that alliances are categorized into **exploration alliances, which are focused on acquiring new knowledge and skills, and exploitation alliances, which are focused on applying existing capabilities for business**. They note in their study that the process of new product development by a firm is sequential: it often starts with exploration alliances resulting in innovation and continues with exploitation alliances to bring products to market. Still, they argue that however larger firms tend to reduce their reliance on alliances as they grow, preferring to develop innovations internally.

Lavie and Rosenkopf (2007) further develop the topic, making a **distinction between consolidated and new partners**, asserting that firms don't merely need to choose between exploration or exploitation in their alliances—they balance both dynamically over time and across different business domains. They identify three dimensions where the balance must be met:

- Function domain – Whether the alliance is R&D focused (exploration) or commercialization focused (exploitation).

- Structure domain – Whether the company collaborates with new partners (exploration) or develops relationship with existing partners (exploitation).

- Attribute domain – Whether the company collaborates with partners who are significantly different from its usual network (exploration) or maintains partnerships with similar partners (exploitation).

Their finding is that successful businesses do not set their sights on constant perfect balance but dynamically shift their exploration and exploitation activity potentially changing partners across the steps. For instance, a firm may focus on R&D

collaboration with new collaborators in the early stage but switch to solidifying relationships with established collaborators to extend production and distribution subsequently.

Lastly, an important role is played by the **volatility and technological uncertainty of the ambit in which the company needs to innovate**: In fast-changing technology landscapes, particularly those driven by digital platforms, artificial intelligence, or high-tech, innovation pace is so intense that it effectively short-circuits the capability of firms to apply conventional in-house development practices. Technologies evolve and become obsolete in such tightly bunched cycles that even when an in-house R&D initiative comes to an end, the original issue may have evolved or, even worse, the solution may already be outdated. This imbalance is especially problematic for incumbent companies operating outside the tech core, i.e. in manufacturing, logistics, or retail, where embracing digital and AI technologies is becoming strategically necessary: these companies, however, are usually hamstrung by rigid organization, legacy technology, and a lack of in-house digital expertise, and even when not, they still have deal with topics and rhythms that may be unusual for them.

As Arenas and Gil-Lafuente (2021) observe, new technologies do not merely introduce innovation—they generate radical volatility and systemic uncertainty. They transform markets at a faster rate than organizations can adapt to match. It is a strategic challenge for incumbent players: if they are to survive, they must innovate; but the innovation itself is evolving so fast that they cannot manage it alone.

This leads most companies to abandon the "build it yourself" approach and embrace outside sources of innovation instead. According to Petković et al. (2023), startups founded for example on AI, here, have become essential partners to big companies, precisely because they are able to develop, prototype, and iterate solutions much quicker than would otherwise be the case with internal departments. These startups are meant to be agile to thrive in uncertainty, staffed with fresh talent, and free from bureaucratic drag. By investing in or partnering with startups, mature firms can effectively outsource their speed of innovation problem: in this regard, collaborating

with startups is not a decision anymore—it is an integral part of innovation planning in an era marked by acceleration and uncertainty

So said, we can affirm that competency management is not so much a matter of internal capability development but a strategic choice that sets the direction of innovation and competitive positioning of an enterprise. The dynamic interaction among internal development, outsourcing, and strategic alliances necessitates strict evaluation of strategic importance, field of knowledge, volatility and evolution rhythms of the field of knowledge and exploration-exploitation trade-off such that core competencies are protected while tapping external competence where necessary.

Having laid down an understanding of how the innovation process is selected, we now turn to the literature to seek empirical evidence for these strategic decisions and their impact on business performance.

1.6.2 When companies favor structured partnerships

Having established the selection criteria for choosing the innovation process, we turn to the literature to see when firms tend to decide to establish structured partnerships. Whether to seek collaborative arrangements with some form of organization hinges on several factors, including the strategic significance of the knowledge domain, the degree of technological complementarity among allies, and how these must be weighed against knowledge exploration and exploitation. Deep diving in the literature, we obtained the following insights.

At first, firms, in trying to innovate, often find themselves working in businesses where several different technological fields cross over. Where firms are trying to innovate on areas that are **complementary to their knowledge domain, they become involved in planned collaborations with well-established organizations**. This strategy allows them to access specialized technological resources without compromising intellectual property and controlling knowledge transfer. Michelino et al. (2015) researched on how firms in R&D-intensive sectors, such as biopharmaceuticals and technology hardware,

make strategic decisions on their innovation models based on the relevance of the knowledge domain. They establish that non-equity alliances are often employed to undertake exploratory innovation, requiring adaptability in experimenting with novel ideas**. Equity partnerships are conversely characteristic of exploitative innovation, where businesses aim to secure and build upon known knowledge to realize profitable return**. The choice between these strategies reflects the long-term orientation of a company and its attitude towards the interaction of risk and control in the innovation process.

A further influential driver of partnership thinking is the degree to which there are similar kinds of knowledge between working firms. While it might seem rational that companies would collaborate with firms of radically differing skillsets to maximize potential for innovation, research by Tomasello, Tessone, and Schweitzer (2016) would suggest otherwise.

Their findings indicate that **companies do not partner with partners too dissimilar from them in knowledge base**. Instead, they prefer partners whose level of complementarity is moderate such that the collaboration is useful and feasible. Firms would have a hard time assimilating and using the knowledge if the technology gap were too large, thereby making the partnership inefficient. Conversely, if partners are too similar, the business may not have the heterogeneity needed to develop significant innovation. Their framework also indicates how different technological regimes condition the nature of partnerships: sectors with codified knowledge bases, where innovation is on clearly demarcated lines, allow for greater freedom in selecting partners, whereas sectors on the tacit knowledge basis, which are incorporated in procedures and experience rather than codified knowledge, prefer collaborations with companies sharing a common technological heritage.

Literature also offers compelling evidence on the impact of formal alliances on R&D performance. Hoang and Rothaermel (2010) examined how firms leverage internal and external experience and established that alliances with the intention of leveraging external experience, by which firms implement and commercialize earlier knowledge,

have a positive impact on R&D success. Further, they found that **companies with sound internal exploration ability gain most from exploitation alliances from the outside because they can better absorb, assimilate, and implement external knowledge**. This would then mean that the success of a formal alliance is not only a product of cooperation outside but also the information processing and application capacity of a firm. The ability to achieve value from external collaborations is also linked with the firm's absorptive capacity, which has a bearing on the extent to which it can discover, internalize, and monetize external innovations. A further significant theme is dynamic partnerships and knowledge spillovers against control. Bernal, Carree, and Lokshin (2022) studied the ways in which companies manage R&D collaborations with a view to obtaining the greatest return from innovations. They classify companies based on how exposed they are to external knowledge: some firms are deliberately interested in formal affiliations to take advantage of flows of external knowledge, while others do not participate and do not benefit from collaborative practices. Their findings indicate that **formal partnerships are maximally advantageous when firms can successfully absorb and assimilate external knowledge**, while firms that cannot will tend towards inefficiency and lower innovation performance. Other than pointing this out, the research also indicates how companies change their alliance strategies over time by reassessing their networks of partners based on changing market conditions, technological innovation, and internal capabilities. This means that successful **firms do not possess fixed partnerships but instead dynamically reconfigure their alliances to maximize their innovation potential**.

Ultimately, we can conclude that firms will stipulate formal partnerships when innovating in complementary knowledge domains so that they can access external knowledge while maintaining control over their intellectual properties: this is because firms select partners based on knowledge similarity, neither excessive cognitive distance, which makes it difficult to collaborate, nor duplicative capabilities, adding little value. Furthermore, what emerges is that firms with in-house exploration capabilities are more likely to realize the greatest value from external exploitation alliances by leveraging their in-house knowledge to magnify the effects of external collaboration, and this depends on the fact that achievement in formal partnerships

hinges on the capacity to manage relationships dynamically, balance exploration and exploitation, and evolve partnerships to accommodate changing technological and strategic requirements: firms that are adept at navigating this complexity are more likely to be able to foster long-term innovation and retain a sustainable competitive advantage from structured partnerships in their respective industries.

1.6.3 Internal development or open innovation?

The decision between internal development and open innovation is an important component of a firm's innovation strategy, because, when engaging in innovation processes, companies must consider a number of factors, including the **strategic significance of an area of knowledge, the risks and benefits of outside collaboration, the impact of open innovation on R&D performance and the impact of volatility on the business initiative itself**. To investigate on when and according to what companies make decisions to innovate internally or externally, we refer to the literature, which investigates how such decisions are determined and guided by factors as the technological importance and characteristics of the company and the type of innovation.

Among the primary determinants of this choice is the strategic relevance of a knowledge domain: if a technology, indeed, is vital to maintaining a firm's competitive advantage, companies prefer to develop it internally to ensure tighter intellectual property management that guarantees long-term differentiation (or at least, increases the possibilities of it). Michelino et al. (2015) explain that R&D-led **companies engage external exploration predominantly for non-core activities and set up core technologies internally**, to prevent knowledge spillovers and maintain technological leadership. This means that companies strictly separate innovations to be developed internally from innovations that may be developed with the assistance of external agents.

The size and the experience of a firm also play a critical role in the way a firm thinks about innovation. Michelino et al. (2014) indicate that small and young firms are more

dependent on open innovation due to constrained in-house R&D capacities and scarce resources. For such firms, external collaboration is usually compulsory and not voluntary, allowing them to leverage specialist knowledge, funding, and facilities they cannot develop in-house R&D capacities and scarce resources.
Conversely, **large companies typically have open innovation as a subsidiary activity**, where there is an overriding emphasis on in-house innovation supplemented by external collaborations selectively, with the intent to bring only incremental advancements. This differentiation leads one to infer that open innovation is a major facilitator for start-ups, while larger enterprises work with outside knowledge more intentionally so that such outside knowledge works alongside and doesn't substitute their own internal competencies.

The nature of innovation being pursued also dictates whether a firm prioritizes internal development or open innovation. Beneito (2006) shows that **breakthrough innovations**, those that revolutionize industries, **are primarily developed internally**, and this is deeply correlated with the willingness of companies to develop core innovations internally, as firms would rather retain control over these game-changing technologies to ensure uniqueness in their marketization and competitive superiority. In contrast, external R&D tends to concentrate on incremental innovation, where firms optimize and enhance current processes and products through collaboration. Such differentiation means that while open innovation can optimize efficiency and broaden knowledge reach, it rarely ever precipitates as the prime driver for disruptive technology change.

Moreover, open innovation is not without its issues. Hoang and Rothaermel (2010) find that **external search can sometimes have a negative impact on R&D performance, particularly for low absorptive capacity firms**. Those companies that are unable to efficiently integrate external knowledge could suffer from inefficiencies, project failure, or strategic misfit. They find that high internal exploration capability firms are likely to use open innovation because they possess the infrastructure to absorb and capitalize on external knowledge efficiently. But those that greatly depend on external knowledge without supporting their internal R&D may experience instability and reduced long-term competitiveness.

Lastly, literature tell us that openness in the innovation field to performance in R&D follows an inverted U-shape curve. Laursen and Salter (2006) explain that **intermediate openness triggers innovation** through exposing firms to various sources of knowledge and new ideas. However, **excessive reliance on outside collaboration complicates things**, and it becomes more difficult to manage multiple collaborations and combine different knowledge streams. Companies that commit excessively to open innovation without a structured strategy compromise return, fragment their knowledge, and create inefficiencies, undermining their innovation strategy in the long term. Therefore, it means that firms must balance with caution, ensuring that outside knowledge contributes to their innovation goals without overloading internal capabilities.

Through this review, one comes to realize that businesses opt to generate their most strategically worthwhile innovations in-house, where full intellectual property management and long-term differentiation are achievable.
Open innovation is often, though, applied to non-core tasks, whereby external alliances facilitate companies to get exposure to complementary skills, achieve greater efficiency, and accelerate product development. The choice to use internal development or open innovation depends on numerous factors, such as the strategic importance of the knowledge field, technological proximity, firm size, type of innovation, absorptive capacity and volatility. Companies that effectively combine internal innovation with external exploration—without over-relying on either approach—are best positioned to sustain long-term growth and maintain a competitive edge in their industries.

1.7 Key findings and conclusions

This chapter has provided an overview of innovation strategy in large firms, and the key strategic drivers of their choices when it comes to innovation have been highlighted. We have pointed out that innovation is not merely a product of creative thinking but a complex process that requires proper implementation, business model integration, and commercialization methods to provide competitive advantage. Here, firms must

balance Open Innovation, strategic partnerships, and internal innovation wisely, depending on the strategic relevance and proximity of emerging knowledge areas to their business and on the uncertainty and volatility they must face.

Big companies are indeed at the center of the innovation system, not only as the creators of new technologies, but also as the designers and coordinators of bigger innovation systems: with structured R&D processes and access to external expertise, they are indeed well-positioned to sustain long-term competitiveness, even if success will hinge on how they manage the trade-off between looking for new competencies and leveraging the current ones—something that needs to be done lest they stagnate or get too vulnerable to technological and market risks.

The literature is evident for itself in showing how firms internalize innovations that are critical to their competitive advantage through the utilization of partnerships or Open Innovation to leverage complementary or non-core knowledge, or to navigate domains of great volatility and uncertainty. Moreover, the ability to absorb and integrate external knowledge (absorptive capacity) and build dynamic capabilities is a major determinant in choosing the success of any innovation strategy.

Overall, choosing an innovation process is never universal but always requires a strategic evaluation that has various facets encompassing technological, competitive, and organizational aspects. Companies that can combine internal and external innovation by retaining crucial assets in-house while deriving maximum synergies with external sources have better chances of delivering sustainable growth and competitiveness.

The emphasis will shift to the beauty sector in the next chapter where an empirical study will be conducted to establish if the strategic models and literature applies to the practicalities of this sector.

2. Analysis of innovation strategies in the beauty industry

2.1 Introduction and scope of the analysis

The purpose of this chapter is to analyze and compare the diverse innovation strategies adopted by the leading companies in the beauty industry and to identify whether there are specific patterns or preferred approaches that companies systematically follow based on the domain in which they pursue innovation, and whether the tendencies identified in the literature are confirmed by evidence in this sector or not. By examining the innovation strategies they adopt in different domains, we intend to uncover whether certain methods—such as internal development, acquisitions, partnerships, venture capital investments, or open innovation—are more prevalent in particular areas of innovation and whether these strategies are the same even in strategically different context and for companies that have different geographic positioning.

This study uses an exploratory approach to determine whether beauty companies with different corporate structures, geographic origins, and market positions show commonalities when it comes to innovation, and we specifically investigate whether innovation is pursued differently depending on whether it pertains to **core versus non-core knowledge domains**—i.e., whether it is closely related to the company's primary expertise or involves areas that lie outside its traditional competencies. Furthermore, we analyze whether innovation efforts are concentrated in areas that are **critical for the company's business and long-term survival** —such as fundamental product development and sustainable practices—or whether they are directed toward **more contingent and peripheral areas**, which may serve as differentiators and marketing drivers rather than essential pillars of the company's competitive advantage.

Lastly, we want to investigate whether the venture capital operations and the acquisition of start-ups is, as found in literature, is closely related to the volatility and uncertainty of the technological landscape also in the beauty industry.

2.2 Research approach

To conduct a comprehensive study of the different innovation strategies employed in the cosmetic industry across various domains, we opted to analyze the **innovation-themed press releases issued between 2014 and 2025** (where available) by L'Oréal, the market leader, along with four other prominent beauty-centered companies: Estée Lauder, Shiseido, Beiersdorf, and Coty.

The review of the press releases of the companies has been chosen as a research method because they represent a reliable and structured source of information on companies' innovation strategies, and this depends on three main reasons:

1) **Accessibility, comparability and consistency of documents**: press releases are easily accessible from the company websites and the content is plainly verifiable as they follow a standardized communication format, making it easier to compare the innovation efforts of companies in different industries and periods thus ensuring consistent analysis of innovation trends.

2) **Reliability and relevance of information provided**: the analysis of press releases allows for direct insights gathering from corporate innovation strategies, as they constitute the official voice of a company, avoiding the biases that might arise from external reports or media coverage. Moreover, they unveil not only the key operations and transaction of the corporations but even their strategic priorities, as the way and the frequency the company decides to communicate with stakeholders, media and investors on a certain topic highlights its focus, goals and most relevant development areas.

3) **Time coverage and continuity of information**: The analysis of press releases between 2014 and 2025 allowed us to obtain a diachronic view of the evolution of the innovation strategies of the selected companies.

2.3 Company selection

The company selection was aimed at focusing only on beauty centered companies and has been guided by three main rationales: at first, we wanted to include in the analysis companies with an organizational **structure and product portfolio similar with the market leader** L'Oréal, to have a meaningful comparison among beauty and cosmetic centered companies only that would allow us to gather insights on the innovation dynamics typical of our focus industry. Secondly, we to ensure **geographic coverage** and diversity, allowing for a more global perspective on innovation strategies within the beauty industry, to avoid the analysis to be biased from a European-centric vision and even to deep-dive whether the tendencies we are investigating are common between different geographies. Thirdly, we looked for companies with **slightly different strategic positioning**, knowledge domains and business scopes, again to guarantee a more comprehensive and non-biased analysis and deep dive innovation strategies independently from the company culture.

Indeed, each of these companies represents a different major market and operates a different business culture:

- **L'Oréal:** based and founded in France, it is the global leader in beauty, known for its heavy R&D focus and beauty tech investments.

- **Estée-Lauder**: based in USA, this American beauty company with a history of acquiring niche and luxury brands to expand its portfolio has a predominant focus on sustainability.

- **Shiseido:** a Japanese brand and world beauty leader with a strong focus on skincare innovation and a unique approach to product development influenced by Japanese consumer preferences.

- **Beiersdorf**: key European layer based in Germany, primarily known for its dermatological expertise and focus on skin health.

- **Coty**: with the headquarter in the United States but founded in France, it is a company that has undergone several transformations through acquisitions and restructuring, and that has a product portfolio that balances mass-market and prestige beauty.

In the meantime, in establishing the scope of this analysis, we chose to leave out giant multinational corporations such as Procter & Gamble (P&G), Unilever, and Henkel, although they have large presence in the beauty sector and the reason for this exclusion is on two factors. Firstly, while such multinational teams own iconic beauty brands, their core business is not exclusively the beauty industry: they have product portfolios that span fast-moving consumer goods (FMCG) in household products, personal care, and even food and beverages, and **diversification may introduce heterogeneous innovation dynamics,** due to their wide industry coverage and large business operations. Moreover, as beauty is not their primary focus, including them would mean to betray the initial hypothesis of conducting the company selection aiming at focusing only on beauty centered companies.

Second their R&D investments, strategic priorities, and product development cycles could be shaped by cross-sector synergies rather than beauty industry trends alone, and for this reason these corporations may exhibit distinct innovation behaviors compared to specialized beauty players. So, including them in the dataset could compromise consistency, as their innovation strategies might reflect broader corporate objectives rather than industry-specific needs.

By focusing exclusively on L'Oréal, Estée-Lauder, Shiseido, Beiersdorf, and Coty, we ensure that our analysis remains coherent and directly relevant to the beauty industry's innovation landscape, and so his targeted approach enables us to identify patterns, commonalities, and strategic differences among leading beauty players without external distortions from companies with diversified portfolios.

2.4 Press release classification

Once the research method and the companies were selected, the first step was to find and download from the companies' websites the innovation-themed press releases and to classify them, for a total number of 340 documents. As anticipated, not for all the companies selected the press release were available for all the selected timeframe (2014-2025), and clearly the press releases are not in the same number for all the companies as it depends both on the number of transactions and initiatives carried out from each company and on the communication strategy of each corporation. Please find in the table below the number of press releases considered for each company and the timeframe considered.

Company	Number of Press Releases	Timeframe
L'Oréal	98	2014 - 2025
Estée-Lauder	52	2014 - 2025
Shiseido	117	2014 - 2025
Beiersdorf	22	2019 - 2025
Coty	51	2017 - 2025
Total	340	

Exhibit 1: Companies selected and press releases analyzed

The outcome of the analysis of each document was recorded as a line on the Excel file, where each document was catalogued with:

- A **title**, that is not necessarily the title of the press release itself but that properly describes the content of the document
- The **date** in which it was published to keep track of the timeframe
- A brief **summary** of the content
- The **theme** of the innovation communicated in the press release, selected between ingredients, dermatology, sustainability, beauty tech, digitalization, market or portfolio expansion, start-up support

- The **innovation process** or strategy used to accomplish the desired innovative output, chosen among acquisition, internal development, open innovation, partnership and venture capital.

Please find below an example of the format in which the documents were categorized.

Document	Date	Summary	Theme	Innovation Process
Launch of L'Oréal Cell BioPrint	01/06/2025	L'Oréal unveiled Cell BioPrint at CES 2025, a tabletop device for personalized skin analysis using advanced proteomics.	Beauty Tech	Internal Development
Acquisition of Dr.G Skincare Brand	23/12/2024	Acquisition of Dr.G, a Korean skincare brand, to expand the product portfolio.	Market or portfolio expansion	Acquisition
Partnership with Abolis and Evonik	09/12/2024	L'Oréal partnered with Abolis Biotechnologies and Evonik to develop sustainable, bio-based ingredients for beauty products.	Sustainability	Partnership
Creation of the Solstice Fund	18/11/2024	L'Oréal and Chenavari launched the Solstice Fund, a €50 million initiative to accelerate decarbonization for suppliers' industrial projects.	Sustainability	Venture Capital
Launch of Melasyl	03/11/2024	L'Oréal launched Melasyl, a novel ingredient addressing skin pigmentation issues, developed after 18 years of research.	Ingredients	Internal Development

Exhibit 2: Example of document categorization method

2.4.1 Methodologies explored for classification

Now that we have seen the final output content and format, let's deep dive how it was obtained; indeed, the classification of the press releases according to the cited categories is the result of the trial of **three different methodologies**.

At the beginning of the study, the first approach we tried was the traditional method, consisting of manually **reading the documents and classifying it according to the content expressed**, and that consequently was grounded in a thorough understanding of the material, ensuring a high level of accuracy in classification. However, apart from its correctness and exactitude, there were several limitations to the method, and we recognized the most serious failings were objectivity and non-scalability of the procedure.

Indeed, because classifying depended upon human judgment, it was open to personal inclinations and interpretative bias that could create variances in the outcome. Additionally, the procedure was also extremely time-consuming and labor-intensive, and the effort to thoroughly read every document was immense, and hence as the

number of documents grew, this method was less scalable and was not possible to deal with large data sets in an efficient manner.

Recognizing these limitations, we looked for alternative strategies that could maximize objectivity, reduce manual effort, and increase the efficiency of the classification process in general. This led us to experiment with **word count-based methods** in hopes of obtaining a more objective and time-efficient classification process. The accuracy we obtained, however, was very poor, and this is attributable primarily to two reasons.

First, the nature of the press releases that we had to analyze posed a significant challenge: these documents are extremely brief, and the text is never more than three pages in length. As a result, there was an absence of adequate incidence of significant word repetition upon which classification could be confidently founded, because unlike longer texts, where specific keywords and topics naturally emerge due to repetition and saliency, short texts lack the necessary volume of data to create distinct linguistic patterns that could be effectively harnessed for classification.
Second, the structure and content of the press releases also contributed to the complexity of the task, as most of these documents include interview transcripts with high-level executives, i.e., the CEO or department heads, in which they speak about strategic corporate actions or financial transactions. While these statements are of tremendous insight, they overshadow the basic information on the innovation itself, such that it is difficult to extract relevant keywords or meaningful trends based on word frequency alone. Hence, the most valuable sections of the text, i.e. the descriptions of the innovation, gets buried in between corporate reports, reducing the usefulness of any frequency-based analysis. These limitations led us to conclude that word count alone is an ineffective method by which to categorize short and structurally dense documents such as press releases. The approach lacked indeed the necessary interpretative depth to recognize meaning and context, which are essential for effective classification, and thus, it became evident that a more sophisticated methodology, capable of understanding semantic nuances and contextual relevance, was needed to achieve meaningful categorization.

This brought us to the realization that the best approach would be a **human-monitored use of AI**, balancing efficiency with interpretative precision. According to Reiss (2023), AI algorithms such as ChatGPT have significant potential for text classification but are non-deterministic, implying that it could happen to have for the same input alternative outputs due to variations in the model parameters and in the wording of inputs. Such inbuilt variability into the system brings reliability problems for using AI within unsupervised classification.

With this in mind, we decided on a framework solution that combined AI automation and human inspection. Specifically, we employed ChatGPT 4.0 to classify the documents at an initial stage, leveraging its big capacity to process text and establish consistent classification patterns, but rather than employing solely AI outputs, we employed a most critical second phase: human verification. This entailed double-checking the AI's categorizations to verify that the actual meaning of each document was being accurately interpreted, especially in instances where subtle language or context-dependent vocabulary might be subject to misclassification: this hybrid approach allowed us to leverage the speed and impartiality of AI while correcting for its shortcomings by means of human validation. By doing so, we were able to maintain our process of classification scalable and more objective than with the sole human interpretation while satisfying the issues of reliability found in Reiss's work. This in turn gave rise to an ordered and reproducible process for classifying documents with minimal risks of sole reliance on AI while enhancing the validity of our results in general.

2.4.2 The chosen methodology: human-supervised use of AI

To conduct human-supervised document classification using AI, we followed a structured process consisting of the following steps:

1) **Preparation of reference data**: we provided ChatGPT 4.0 with an Excel file containing 10 rows, each corresponding to a document that had been manually classified. Each row included structured information about the documents, specifically title, date, summary, theme, and innovation process.

2) **Uploading and contextualizing the documents**: next, we uploaded the 10 corresponding PDF documents and provided ChatGPT with the following prompt:
"These PDF files are press releases that have been classified in the Excel file. Each row in the file corresponds to a different document. Analyze the documents and familiarize yourself with their structure and content."

3) **Defining the AI classification process**: once ChatGPT had processed the documents, we specified the classification criteria using this prompt:
"I will provide you with new documents, and for each one, you must add a row to the Excel file with the following information: title, publishing date, a brief summary, theme (choosing from: Sustainability, Dermatology, Beauty Tech, Digitalization, Ingredients, Market or Portfolio Expansion, Start-up Support) and innovation process used (choosing from: Internal Development, Partnership, Acquisition, Venture Capital, Open Innovation)."

4) **Automating the classification process**: finally, we provided ChatGPT with new documents in batches of 10 at a time, using the prompt: *"Add the relevant information for these documents to the Excel file according to the established criteria."*

This process allowed us to automate the classification of new documents while ensuring consistency with the initial dataset, maintaining human supervision to verify quality and accuracy.

2.5 Database analysis and interpretation: insights from each company

Once the Excel spreadsheet containing the categorized documents was complete, we conducted a comprehensive company analysis in order to uncover potential patterns and strategic tendencies in how companies systematically interact based on the ambit of innovation. As said, the analysis is meant to determine correlations between the chosen themes and the innovation processes used by different corporations, and to

achieve this, we employed pivot tables to categorize and filter the data according to the chosen themes and innovation processes.

On the following pages, we present an extensive summary of the most significant results for each company in consideration, highlighting trends, common practices, and potential points of focus that characterize their strategies for innovation.

2.5.1 L'Oréal results

In conducting the analysis of L'Oréal, we considered 98 innovation-themed press releases published between 2014 and 2025 and we categorized them according to the criteria outlined in the previous paragraphs.
As a first step, we sought to examine the themes and innovation processes that were prevalent in the company. We found, as can be noticed by the reader in the graphs below (Exhibit 3), a pronounced focus on **beauty tech and sustainability-oriented initiatives**, as well as a strategic imperative to foray into new markets—both in geographical terms and about product portfolio diversification. Moreover, we can see a prevalence in the use of partnerships, acquisitions and internal development as processes favored by this company.

Our analysis confirms indeed what is stated in the Euromonitor report released about L'Oréal in October 2024 (Euromonitor International 2024): in the past year, L'Oréal has been emphasizing and focusing on technology to drive innovation and novelty in product lines and distribution channels. One of the priorities of this strategy has been the development of livestream selling in APAC and EMEA, and this has contributed significantly to the company's e-commerce performance. By leveraging the use of expert events, L'Oréal has managed to generate cross-selling opportunities and boost consumer interaction. Other than that, as part of its universalization strategy, L'Oréal made recently one of its biggest acquisitions to date with the acquisition of Aesop from Natura. The deal not only brought a premium personal care brand to its Luxe division but also reinforced its position in China, where it had just opened new physical stores right before the deal was announced. Additionally, L'Oréal has invested heavily in bio-

engineered alternatives to natural ingredients, which is also aligned with its overall sustainability objectives of less water use, preserving biodiversity, and less land use.

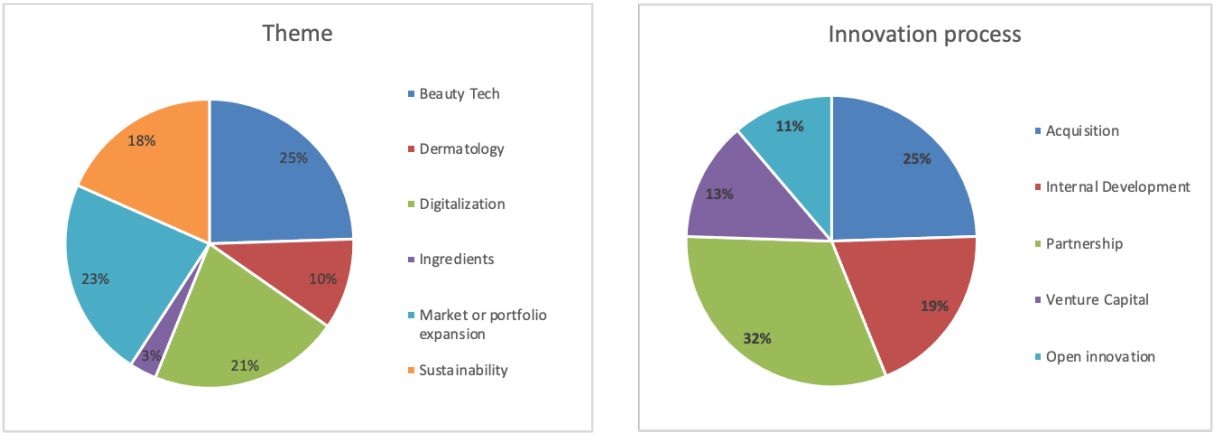


Exhibit 3: Distribution by theme and innovation process in L'Oréal innovations

Once obtained this general overview about the innovation and expansion dynamics inside the company, we started analyzing the dataset by single theme and innovation process, with the goal of identifying possible correlations and patterns among the two variables and further understanding what drives the innovation strategy at L'Oréal. What we discovered is that there is clear evidence that in the company specific innovation processes are employed to innovate in particular ambits, and the key takeaways of the analysis can be found below, further supported by the quantitative evidence and the exhibits (Exhibit 4):

- Acquisitions are primarily carried out to expand the product portfolio or strengthen the company's position in specific geographical areas, as this applies 79% of the analyzed casuistry.

- The company **sponsors competitions, operates venture capital transactions and leverages open innovation mainly in the areas of non-core beauty tech and digitalization** (e.g. virtual try-on devices), as this applies 82% of the analyzed casuistry.

- To innovate in **sustainability and dermatology, the company primarily relies on structured partnerships** (with consolidated companies or important universities R&D centers), as showed in the graphs below.

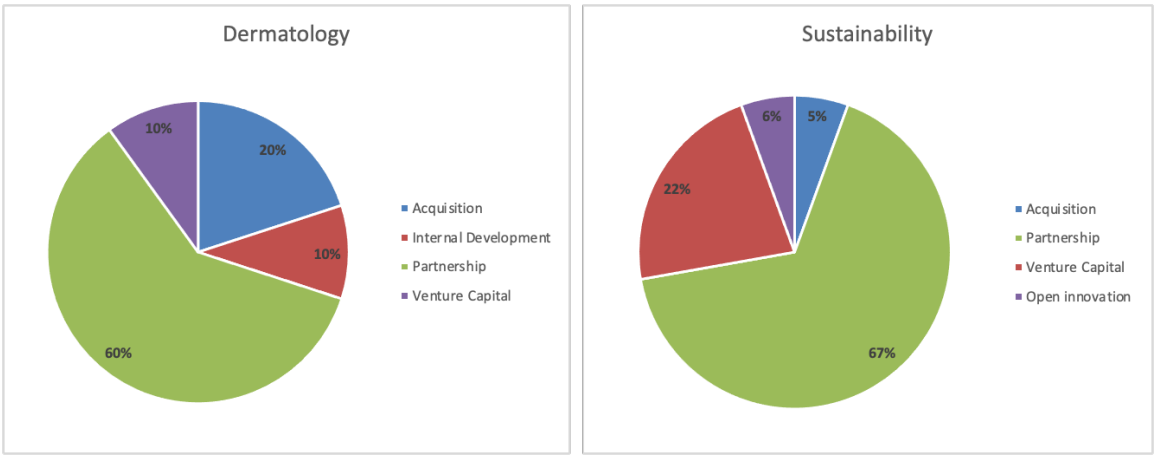


Exhibit 4: Innovation processes for dermatology and sustainability in L'Oréal innovations

- When it comes to **core beauty tech** (devices to be commercialized and sold) **and ingredients, innovation takes place almost entirely in-house** (100% of new ingredients in the last 10 years have been developed internally, as 75 % of core beauty tech products).

In conclusion, our analysis of L'Oréal's innovation strategy seems to be uncovering a systematic and structured pattern of building technological innovation, environmental sustainability, and market expansion. The company apparently employs different innovation processes—ranging from acquisitions to collaborations to solo development—tailored to the specific field of innovation. Beauty tech and sustainability are key as dominant themes, where there is clear differentiation in tackling core versus non-core innovations, and internal R&D remains the milestone for innovation in new ingredients and core beauty tech solutions. An overview of the key insights obtained from this analysis can be found in the table below (Exhibit 5).

Focus Areas	Predominant Processes	Key Insights
Beauty Tech	Internal R&D	Core beauty tech devices mainly developed internally
Sustainability	Partnerships	Strong reliance on partnerships with universities and R&D centers for sustainability initiatives.
Dermatology	Partnerships	Collaborative innovation with research centers.
Ingredients	Internal R&D	100% of new ingredients developed internally.
Digitalization	Open Innovation, Venture Capital	Outsourced to startups and contests; e.g., virtual try-on tools.
Expansion	Acquisitions	Acquisitions used to expand brand portfolio and market presence.

Exhibit 5: Overview of L'Oréal innovation strategy

Having understood the general picture of how L'Oréal works, we next turn to other firms to understand how they organize innovation, comparing strategy, process, and thematic emphasis within the broader beauty and personal care landscape.

2.5.2 Estée-Lauder results

In conducting the analysis of Estée-Lauder, we considered 52 innovation-themed press releases published between 2014 and 2025 and we categorized them according to the criteria outlined in the previous paragraphs.

Firstly, we aimed at analyzing the themes and innovation processes that were prevalent in the company to understand their strategic focus and market positioning. We found, as can be noticed by the reader in the graphs below (Exhibit 6),

a clear focus on **dermatology and sustainability-oriented initiatives**, as well as a clear tendency on acquiring brands and product lines —both in geographical terms and about product portfolio diversification. Moreover, we can see as it was for L'Oréal a prevalence in the use of partnerships, acquisitions and internal development as processes favored

by this company.

This innovation strategy is indeed in line with the company vision, as -Lauder bases its positioning in the market less on innovation and beauty-tech and more on sustainability and inclusion with respect to the market leader L'Oréal, serving with its brands a younger, more premium and more diverse customer base.

Our evidence is even supported by what is stated from Euromonitor (Euromonitor International 2023): Estée-Lauder Cos Inc. is concentrating on high-end, premium brands, as it has demonstrated in acquiring Tom Ford, while moving away from designer perfumes. In addition, sustainability remains a fundamental aspect of Estée Lauder's approach, and over half (53%) of its 2022 value sales come from products that have sustainable attributes. The company has also made major progresses in green chemistry and dermatology activities as well as de-animal testing across its brands, with significant progress in several lines of cosmetics.

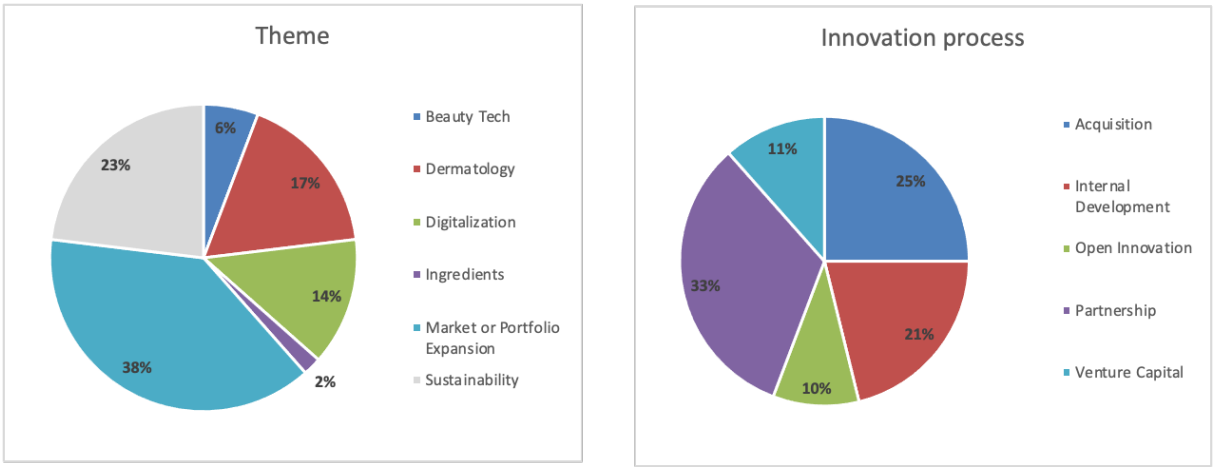


Exhibit 6: Distribution by theme and innovation process in Estée-Lauder innovations

Once done this general overview about the innovation and expansion dynamics inside the company, we started deep-diving in the dataset trough each single theme and innovation process, aiming at identifying possible correlations and patterns among the two variables and further understanding what guised the innovation strategy at Estée-Lauder. What we discovered is that there is clear evidence that in the company specific innovation processes are employed to innovate in particular segments, and the key

takeaways of the analysis can be found below, further supported by the quantitative evidence:

- Acquisitions are, as for L'Oréal, primarily carried out to expand the product portfolio or strengthen the company's position in specific geographical areas, as this applies 65% of the analyzed casuistry.

- To innovate in **sustainability, the company primarily relies on structured partnerships,** as this applies 50% of the analyzed casuistry.

- Differently from what is done by L'Oréal, dermatological innovation is mainly developed in-house, as this evidence comes from 67% of the cases.

- Due to the limited number of data, it is not possible to individuate a thematic prevalence in terms of how the company operates venture capital transactions and leverages open innovation, but the initiatives seem to pertain to non-core products and services but rather to enriching elements.

To conclude, our analysis of Estée-Lauder's strategy of innovation seems to be revealing a clear dermatology, sustainability, and prestige brand positioning direction. The company is concentrated on acquisitions to diversify its portfolio of products and geography, aligned with L'Oréal's approach in the same direction. However, Estée-Lauder is different in maintaining less concentration on beauty tech and focusing on sustainability and diversity. Moreover, collaborations appear to be pivotal in undertaking sustainability initiatives, with the venture capital and open innovation of the company being less solidified, sustaining mainly non-core product innovation. Generally, the strategy of Estée-Lauder is high-end brand building-oriented and sustainability-innovation-focused. An overview of the key insights obtained from this analysis can be found in the table below (Exhibit 7).

Focus Areas	Predominant Processes	Key Insights
Dermatology	Internal R&D	67% of dermatology innovations developed in-house.
Sustainability	Partnerships	50% of sustainability initiatives pursued via structured collaborations.
Beauty Tech	Limited	Minimal focus compared to L'Oréal.
Ingredients	Internal R&D	Reinforces dermatology positioning.
Expansion	Acquisitions	M&A (e.g., Tom Ford) aimed at portfolio and market expansion.
Digitalization	Limited	Few initiatives; mostly peripheral.

Exhibit 7: Overview of Estée-Lauder innovation strategy

2.5.3 Shiseido results

In conducting the analysis of Shiseido, we considered 117 innovation-themed press releases published between 2014 and 2025 and we categorized them according to the criteria outlined in the previous paragraphs.

As a starting point, we sought to examine the themes and innovation processes that were prevalent in the company. We found, as can be seen by the reader in the graphs below (Exhibit 8), a pronounced focus on **ingredients development and dermatological innovation**, as well as on company and market expansion, both in geographical terms and about product portfolio diversification. Moreover, differently from the companies analyzed until now, we can see a net prevalence in the use of **internal development** as process favored by this company, followed by partnership formation.

The insights we gathered from the analysis mirror the story, the origins and the strategy of the company itself. Born in 1872 as the Japan's first western-style pharmacy (Roll, M. 2016), Shiseido's heritage is rooted in science and centered on internal R&D. Indeed, their value proposition is centered non only on beauty but mostly on skin health, blending, as they say, eastern wisdom with western science.

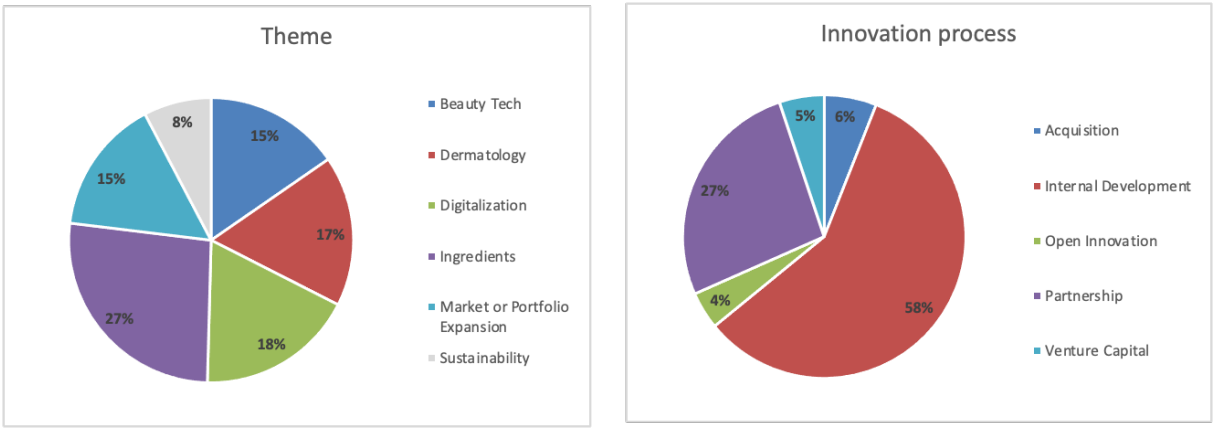


Exhibit 8:Distribution by theme and innovation process in Shiseido innovations

Having established the context with an initial overview of Shiseido's innovation and development dynamics, we then proceeded to a detailed examination of the data set, considering each theme and innovation process as an independent object of analysis. Our objective was to identify likely correlations and interdependencies between the variables to further illuminate the key determinants of Shiseido's innovation strategy. The findings clearly show that the company employs specific processes of innovation which are appropriate for different areas of development. The major conclusions from this analysis, backed by quantitative data and graphical exhibits (Exhibit 9&10), are presented below.

- As anticipated, **great part of innovations are carried out internally**: this tendency applies, as can be seen in the graphs below, to **ingredients development, dermatology and beauty tech**. Moreover, while for beauty tech also other alternative innovation process are explored, even if minimally, when it comes to dermatology and ingredients, the core business of the company, the only alternative to internal development is represented by structured partnerships.

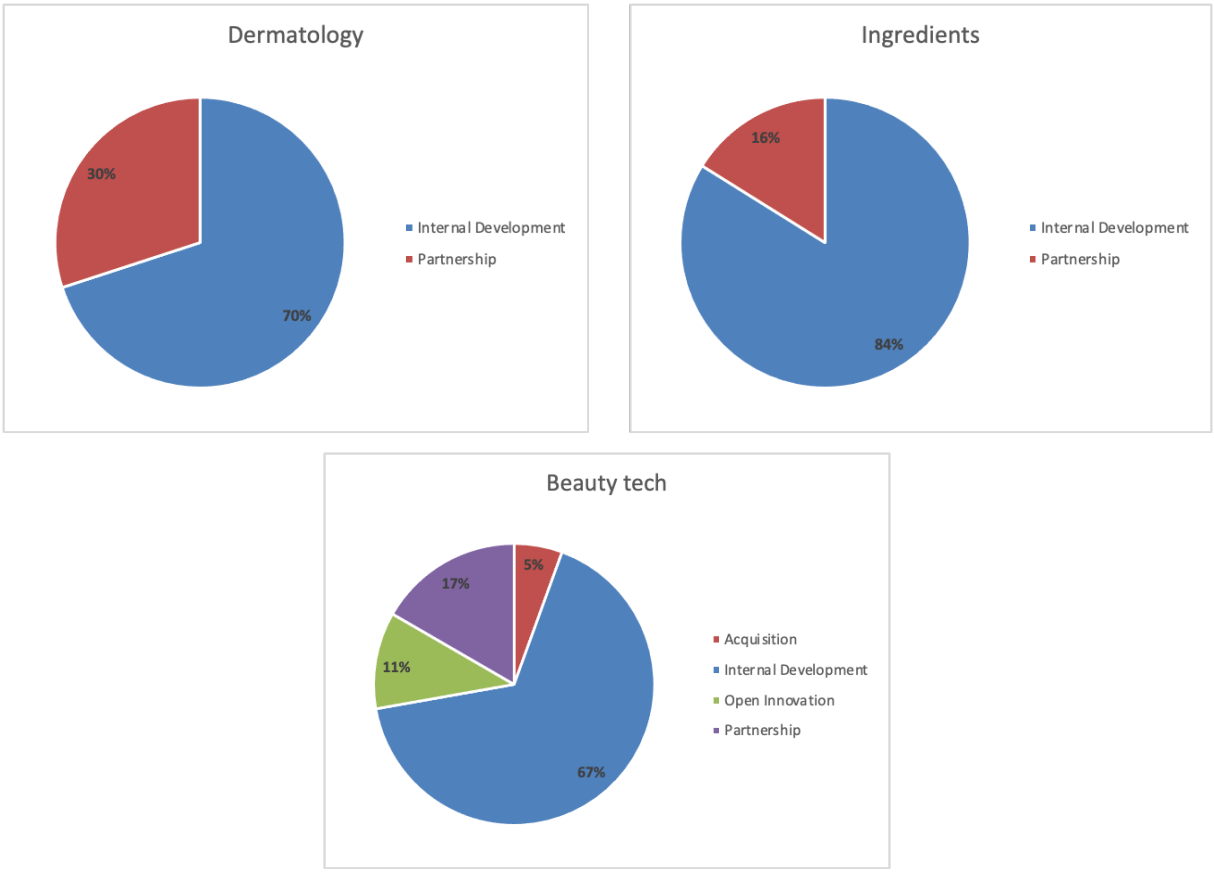


Exhibit 9: Innovation processes in dermatology, ingredients and beauty tech in Shiseido innovations

- The **sustainability related initiatives** are, even by this internal development focused company, managed with **collaboration and mostly structured partnerships.**

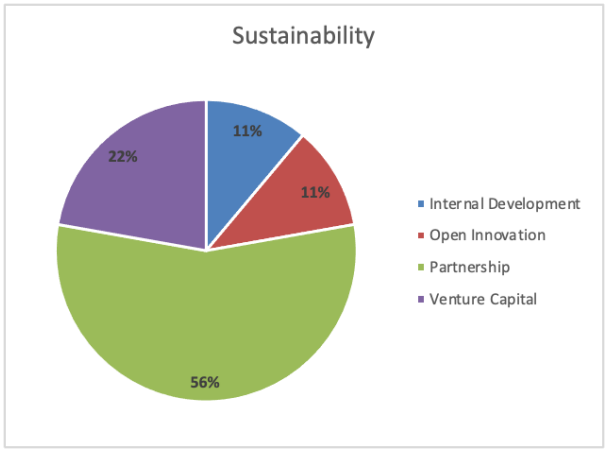


Exhibit 10: Innovation processes in sustainability in Shiseido innovations

- The company **sponsors competitions, operates venture capital transactions and leverages open innovation mainly in the areas of non-core sustainability and digitalization initiatives**.

Our analysis of Shiseido's innovation strategy finds, concluding, an emphasis on internal development, particularly in ingredient science, dermatology, and beauty technology. Sustainability initiatives, however, follow a different route, with the company relying to a larger degree on collaborations and formal partnerships to make progress in this area. Additionally, while Shiseido engages in open innovations, venture capital investments, and sponsored competitions, these are primarily for digitalization and non-core programs regarding sustainability-driven innovations. An overview of the key insights obtained from this analysis can be found in the table below (Exhibit 11).

Focus Areas	Predominant Processes	Key Insights
Ingredients	Internal R&D	Core focus on science-driven innovation.
Dermatology	Internal R&D, Partnerships	Primarily internal, supported by structured collaborations.
Sustainability	Partnerships	Collaboration-driven, particularly for eco-initiatives.
Beauty Tech	Internal R&D, Limited Partnerships	Devices and skincare technologies mostly developed in-house.
Digitalization	Open Innovation, VC	Limited and non-core, explored through startups and competitions.
Expansion	Acquisitions	Used selectively for market and portfolio growth.

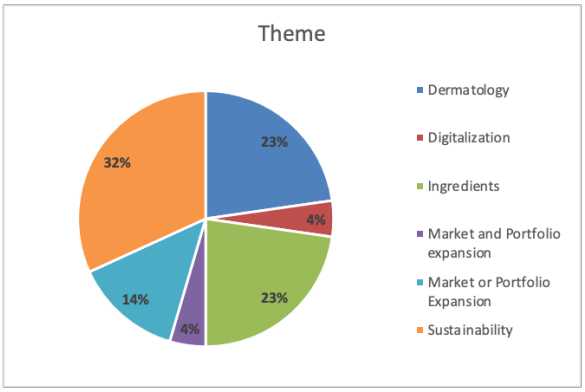
Exhibit 11: Overview of Shiseido innovation strategy

Overall, Shiseido's innovation strategy reinforces its positioning as a science company expert in skincare excellence. Having explored its unique strategy, we now look at other key beauty players to contrast their strategies and identify broader market trends.

2.5.4 Beiersdorf results

In conducting the analysis of Beiersdorf, we considered 22 innovation-themed press releases published between 2019 and 2025, due to limited availability of the documents differently from the other company analyzed until now, and we categorized them according to the criteria outlined in the previous paragraphs.
Firstly, we aimed at analyzing the themes and innovation processes that were prevalent in the company to understand their strategic focus and market positioning. We found, as can be noticed by the reader in the graphs below (Exhibit 12), a focus on **dermatology and sustainability-oriented initiatives**, but differently from what we have seen before for other companies, there seems to be no tendency on acquiring brands and product lines. Indeed, we can see a prevalence in the use of partnerships and internal development as processes favored by this company.

The insights we gathered from the analysis mirror the strategy and positioning of the company, as confirmed from Euromonitor (2023). Indeed, skincare and specifically dermocosmetics is the most important category for the company, both in terms of value sales and strategic orientation: these products have experienced significant growth in the last years, owing to their proven efficiency, safety and transparency in terms of ingredients. Nonetheless, sustainability represents another pillar for Beiersdorf, and even one of their main salespoint: in 2022, the non-profit CDP awarded the company with a triple A for its target-setting, performance, and transparency leadership in three of its primary fields of sustainability: climate, forests, and water security. Moreover, in the same year, Beiersdorf also achieved the prestigious "My Green Lab" certification for its Hamburg research centers: this internationally recognized gold standard for sustainable lab practices helps promote ongoing improvement through offering laboratories useful strategies to maximize their environmental performance. In addition, Beiersdorf has recently become a member of the new EcoBeautyScore Consortium (EBSC), a project to promote greater transparency about the environmental impact of cosmetic products.



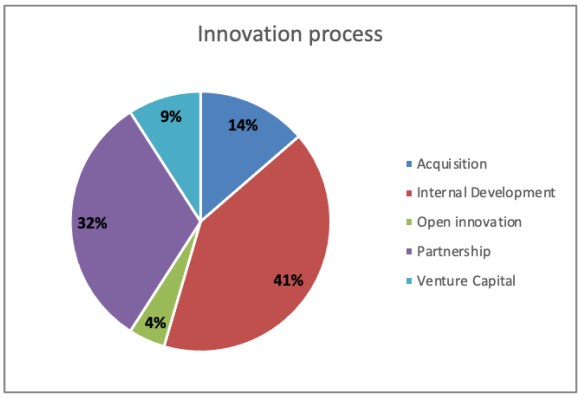


Exhibit 12: Distribution by theme and innovation process in Beiersdorf innovations

Once performed this first general analysis about the innovation and expansion dynamics inside the company, we started analyzing the dataset by single theme and innovation process, aiming at identifying possible correlations and patterns among the two variables and further understanding what guides the innovation strategy at Beiersdorf. While for this company the dataset is not that large, even here there seems to be an evidence that in the company specific innovation processes are employed to innovate in particular segments, and the key takeaways of the analysis can be found below, further supported by the quantitative evidence:

- When it comes to **sustainability and ingredients, innovation takes place almost entirely in-house** (80% of new ingredients in the last years have been developed internally, as 57 % of sustainability related innovations).

- To innovate in **dermatology, Beiersdorf tends to rely on structured partnerships**, as this happens in 60% of the cases analyzed.

- Even in this case, open innovation initiatives and venture capital investments seem to be concerning non-core topics for the business of the company.

To sum up, what we can conclude from the analysis made about Beiersdorf is that its innovation strategy has a clear focus on dermatology and sustainability as would be expected given its core positioning in dermo cosmetics and skincare. Differently from other companies previously reviewed, Beiersdorf lacks a strategic inclination toward the

acquisition of brand and product lines, and it is almost entirely reliant upon internal development and structure-in place partnerships for innovation in its core focus areas. This approach is backed by the firm's sustainability promise, which has also emerged as a guiding philosophy and competitive advantage. An overview of the key insights obtained from this analysis can be found in the table below (Exhibit 13).

Focus Areas	Predominant Processes	Key Insights
Dermatology	Partnerships	60% of dermatology innovation through structured collaborations.
Sustainability	Internal R&D	57% of sustainability innovation carried out internally.
Ingredients	Internal R&D	80% of new ingredients developed in-house.
Beauty Tech	Limited	Not a central area of investment.
Digitalization	Limited	Rare and peripheral.
Expansion	Not relevant	No strong evidence of acquisitions.

Exhibit 13: Overview of Beiersdorf innovation strategy

With these observations about Beiersdorf's strategic innovation, we shift our focus now to other major players in the industry to learn more about how various companies handle innovation and market growth.

2.5.5 Coty results

In conducting the analysis of Beiersdorf, we considered 51 innovation-themed press releases published between 2017 and 2025, due, as for Beiersdorf, to limited availability of the documents, and we categorized them according to the criteria outlined in the previous paragraphs.

Beginning with the relevant themes and innovation strategy in the company we found, as can be seen by the reader in the graphs below (Exhibit 14), a pronounced focus on company and market expansion - both in geographical terms and about product portfolio diversification - followed by **sustainability and digitalization**. Most notably, unlike the previous companies, this company puts **strong dependence on**

partnerships as its first option of innovation strategy, followed by internal development as the second approach.

As further explained in the Euromonitor report (2023), these tendencies clearly depend on the company's business model, based mostly on producing fragrances, skincare and make-up products for luxury brands it partners with, and on the fact that Coty is trying to sustain and improve its ranking among beauty companies after some years of decline betting on new initiatives on sustainability innovation, direct-to- consumer and digitalization. Indeed, Coty is at the forefront for what concerns sustainable luxury fragrances and is boosting AI applications as key pillars of its current brand repositioning projects to catch up with global competitors.

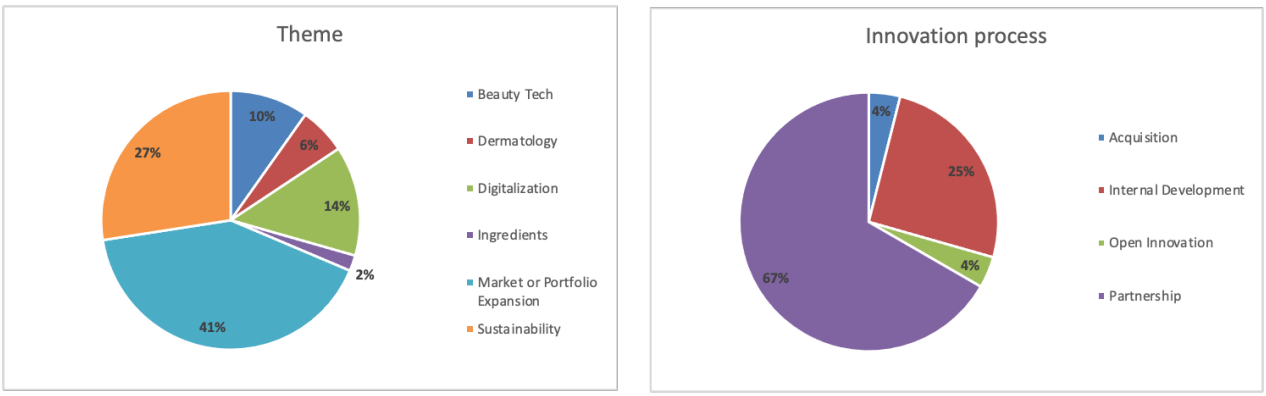


Exhibit 14: Distribution by theme and innovation process in Coty innovations

Having established the context with an initial overview of Coty's innovation and development dynamics, we then proceeded to a detailed examination of the data set, considering each theme and innovation process as an independent object of analysis. Our objective was again to identify likely correlations and interdependencies between the variables to further illuminate the key determinants of Coty's innovation strategy. The findings once again suggest that the company employs specific processes of innovation which are appropriate for different areas of development. The major conclusions from this analysis, backed by quantitative data, are presented below:

- There is no clear evidence of a predominating innovation process for what concerns sustainability, as the company either engages in partnerships or develops internally with the same frequency

- When it comes to innovating **digitalization, the company prefers partnerships** in 71% of the cases, while opts for open innovation in the remaining.

To conclude, we can say that Coty's innovation strategy is primarily partner-based collaborations, particularly in market building and digitalization, while sustainability initiatives are split between internal development and collaboration. An overview of the key insights obtained from this analysis can be found in the table below (Exhibit 15).

Focus Areas	Predominant Processes	Key Insights
Expansion	Partnerships	Collaborations are the preferred mode for market and portfolio expansion.
Digitalization	Partnerships, Open Innovation	71% partnerships, 29% open innovation initiatives.
Sustainability	Mixed (Internal + Partnerships)	Balanced between internal development and collaborations.
Dermatology	Limited	Peripheral vs competitors
Ingredients	Limited	Peripheral vs competitors
Beauty Tech	Limited	Peripheral vs competitors

Exhibit 15: Overview of Coty innovation strategy

2.6 Overall analysis and conclusions

In the previous paragraphs, we have analyzed one by one all the selected industry players and we have gathered insights on how they manage their innovation strategy, having the opportunity to get confirmation of the fact that there are tendencies to follow specific patterns and processes when it comes to different themes, knowledge domain, level of expertise required and importance of the initiative for the business. But while certain tendences can be spotted even considering the single players, the trend becomes even more evident when the full dataset is considered. In the following

paragraphs indeed, we are to perform both a **comparative analysis**, to further examine and summarize the different approaches among the companies, and an **aggregate analysis**, to understand whether there are common trends and approaches across the industry, and

2.6.1 Comparative analysis

Following the individual company analysis, it is helpful to directly compare the five players to determine common trends and exclusive strategies: despite sharing the same industry, addressing similar innovation subjects and, as we will see with the aggregate analysis, showing several similarities when it comes to choosing the innovation process respect to a specific domain, still we can notice that their approaches in some circumstances might differ significantly depending on their culture, geographical origins, and strategic agenda.

Indeed, starting from L'Oréal, we can say that it is the most diversified and technology-oriented innovator: it invests strongly in internal R&D in strategic categories such as ingredients (100% in-house developed) and core beauty tech devices (75% in-house), while acquisitions (e.g., Aesop) are used for geographic reach and product portfolio diversification. For its part, non-core capabilities such as digitalization are pursued by open innovation, venture capital, and startup collaborations (e.g., ModiFace), and corporate alliances are instead concentrated on sustainability and dermatology, with many collaborations being not only with big corporations but also with important universities and research organizations. This reflects L'Oréal's global leadership and depend on their ability to combine scientific brilliance and heritage with financial availabilities to drive new technology frontiers.

Estée-Lauder, on the other hand, is angled towards prestige and sustainability: its dermatology innovations are developed mostly internally (67%), with high reliance on internal scientific expertise, while sustainability initiatives are addressed largely through structured partnerships (50%), in line with the corporation's interest and emphasis on ethical values and diversity, that happen to be almost part of their core domain as are distinctive to their value proposition. Moreover, mergers such as Tom Ford are employed

to accumulate its luxury pipeline rather than improve technological capability, while beauty technology and digitalization remain on the periphery. Estée-Lauder therefore contrasts with L'Oréal by evidencing a narrower scope of innovation, geared to premium brand equity and consumer values rather than technological innovation.

Thirdly, Shiseido follows a singular path rooted in its science legacy and Japanese culture: innovation in ingredients, dermatology, and beauty technology are all carried out predominantly through internal R&D, which helps it maintain its position as a Japanese research-based skincare company. Sustainability collaborations are withheld, with acquisitions being done only selectively. Shiseido's strategy, rooted in Japanese heritage, differs from Western competitors, with less diversification and a focus on maintaining credibility through tradition and research leadership.

Beiersdorf instead has another model, strongly specialized in dermo cosmetics and sustainability: most ingredients (80%) and sustainability actions (57%) are developed in-house, and dermatology is complemented primarily by organized alliances (60%). Beiersdorf does not have a taste (probably also due to its smaller size) for the acquisition of companies, as it highlights its role as a specialist versus a diversified multinational. Beiersdorf's strategy prioritizes credibility, security, and eco-responsibility versus portfolio expansion.

Coty, lastly, is the most evident in looking for partnership-based to compensate for an underdeveloped R&D foundation and to reposition itself in the marketplace: growth relies indeed significantly on partnerships, with digitalization being pursued predominantly through partnerships (71%) and open innovation (29%). Sustainability is treated on a mixed basis, with in-house and outside projects combined, and dermatology and beauty tech lack a dominant process. Relative to the others, Coty is less research-oriented and more agile and network-oriented, relying on external partnerships to restore competitiveness. An overview of the key insights obtained from this analysis can be found in the table below (Exhibit 16).

	L'Oréal	Estée Lauder	Shiseido	Beiersdorf	Coty
Sustainability	Partnerships	Partnerships (50%)	Partnerships	Mainly Internal R&D (57%)	Mixed: Internal + Partnerships
Ingredients	100% Internal R&D	Internal R&D	Internal R&D (core focus)	80% Internal R&D	Limited
Dermatology	Partnerships with research centers	Mainly Internal R&D (67%)	Internal R&D + Partnerships	Mainly Partnerships (60%)	Limited
Beauty Tech	Internal R&D	Limited	Internal R&D + Limited Partnerships	Limited	Limited
Digitalization	Open Innovation & VC (startups, contests)	Limited	Open Innovation & VC (non-core)	Limited	71% Partnerships, 29% OI
Expansion	Acquisitions (brand & market growth)	Acquisitions (e.g., Tom Ford)	Selective Acquisitions	Not relevant	Partnerships & Collaborations

Exhibit 16: Overview comparative analysis

2.6.2 Aggregate analysis

In conducting this overall analysis, we considered all the 340 innovation-themed press releases together, published between 2014 and 2025, and categorized according to the criteria outlined in the previous paragraphs.

As done for all the single companies, let's start examining the themes and innovation processes that were prevalent overall. The first thing that can be noticed is that, as can be seen by the reader in the graphs below (Exhibit 17), the **most prominent theme** when it comes to innovation in the beauty industry is represented by the **sustainability** related initiatives, followed by beauty tech, dermatology and ingredients. Moreover, in terms of process, we can see a net prevalence in the use of **internal development** as process favored in this industry, followed by partnership formation.

The insights we gathered from the analysis mirror the trends of the industry: According to *The Business of Fashion (BoF) and McKinsey & Company* (2023) e sustainability, beauty tech, and ingredient innovation are the three pillars that will shape the future of the beauty business. As consumers increasingly prioritize ethical and green choices, brands must react by integrating sustainable approaches, technological innovation, and science-based ingredient innovation into their business strategies.

Sustainability is indeed no longer a niche interest but a core expectation among Millennial and Gen-Z beauty consumers. More than 46% of Gen-Z shoppers are willing to pay more for beauty products with sustainable brands, and nearly 40% expect gender-neutral beauty products. These shifts are prompting brands to extend their value positions, beyond the usual marketing parlance to authentic green responsibility. Where sustainability is defined, international tastes vary: western consumers are interested in cruelty-free production, whereas Chinese consumers are concerned with natural ingredients and environmentally friendly production. Across the globe, the most valued sustainability attributes are eco-friendly formulations, sustainable packaging, ethical sourcing and production and open communication regarding a product's ingredients, manufacturing processes, and sustainability initiatives, and leading brands are responding by investing in clean beauty and rethinking packaging, as further highlighted in our analysis.

Moreover, for what concerns **beauty-tech and digitalization**, the fusion of technology and beauty is providing new possibilities in product formulation, customer experience, and skin diagnosis. Digital disruption has changed discovery, consideration, and purchase of beauty products by consumers, and Gen-Z consumes extensively through endorsements and social media.
One of the largest beauty tech developments is the advent of personalized skincare and AI-driven diagnostics. Tailored products based on individual skin needs are increasingly in focus, with brands employing AI to evaluate skin health and recommend personalized regimens, says the report.

Another growing category is at-home beauty devices, particularly in the skincare category, where devices such as LED masks, microdermabrasion devices and professional-grade serums driven by advanced applicators are on-trend as customers receive professional-grade beauty treatments from the comfort of their own homes.

Finally, **ingredient** transparency is being a differentiating factor among beauty consumers, especially of the younger generation, who read extensively about formulations, efficacy, and safety before purchasing. According to the report, 40% of the consumers purchase beauty products containing probiotics, adaptogens, or skin-strengthening supplements as there is growing interest in science-backed, multi-purpose ingredients that yield immediate as well as long-term solutions.
Beauty's "skinification" extends to the hair care and color cosmetics category as well, as companies introduce nourishing and repairing ingredients into their products even where they did not use to be.

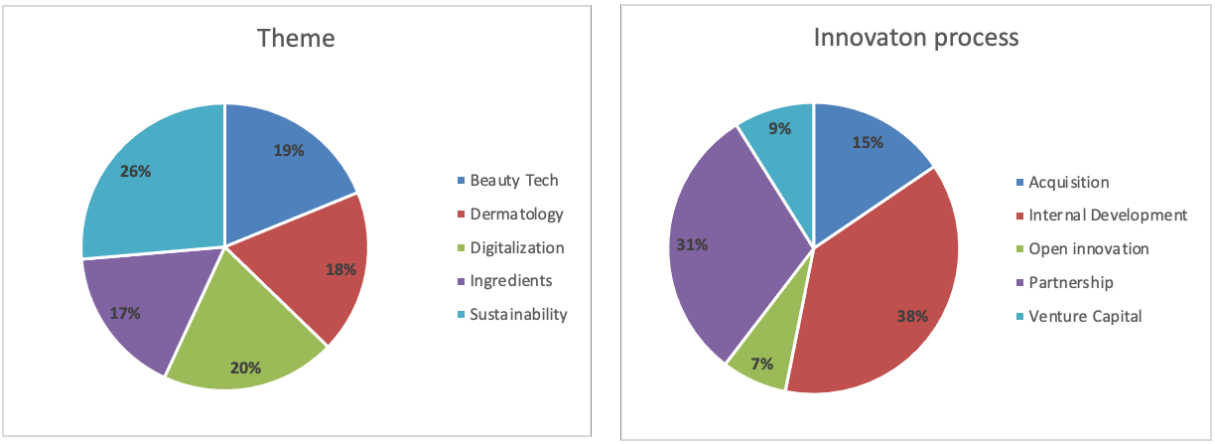


Exhibit 17: Distribution by theme and innovation process in the beauty industry innovations

Once performed this first general analysis about the innovation and expansion dynamics inside the industry, we moved on analyzing the dataset by single theme and innovation process, aiming at confirming the correlations and patterns among the two variables found in the single analysis performed before. Finally, we can conclude **there is evidence that in the industry specific innovation processes are employed to innovate in particular segments**, and the key takeaways of the analysis can be found

below, further supported by the quantitative evidence and graphs (Exhibit 18, 19, 20, 21, 22):

- In the beauty industry, the **main driver for acquisition is not innovation but rather market and/or product portfolio expansion**, as this applies to 83% of the casuistry, showing that M&A activities are used to reinforce geographic presence or diversify offerings rather than to introduce breakthrough innovations

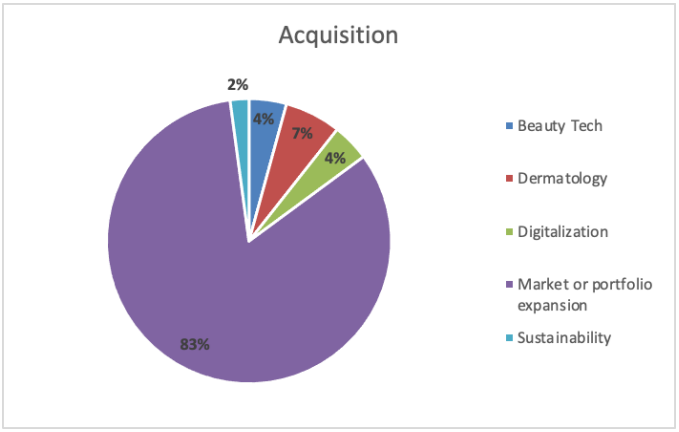


Exhibit 18: Acquisition in the beauty industry

- **New ingredients development and core beauty-tech innovations tend to be carried out internally**, as this happens, respectively, in 82% and 53% of the cases, reflecting the strategic importance of these areas to companies' R&D efforts.

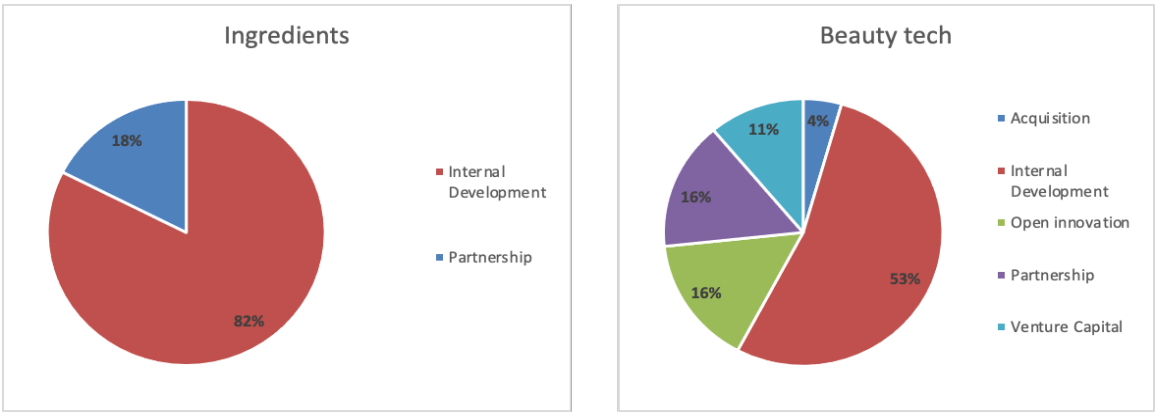


Exhibit 19: Innovation processes in ingredients and beauty tech in the beauty industry

- **Innovation in sustainability and digitalization is mainly pursued trough structured partnerships**, as showed respectively in 51% and 50% of the cases analyzed.

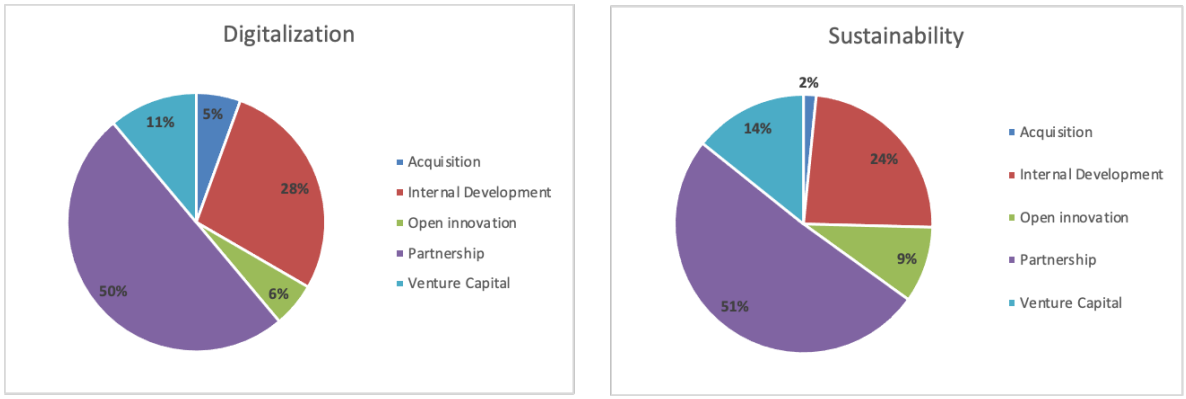


Exhibit 20: Innovation processes in digitalization and sustainability in the beauty industry

- The company **sponsors competitions, operates venture capital transactions and leverages open innovation mainly in areas affected by high uncertainty as of non-core beauty tech, digitalization and sustainability**, as this applies, respectively, in 27%, 33% and 38% of the analyzed casuistry.

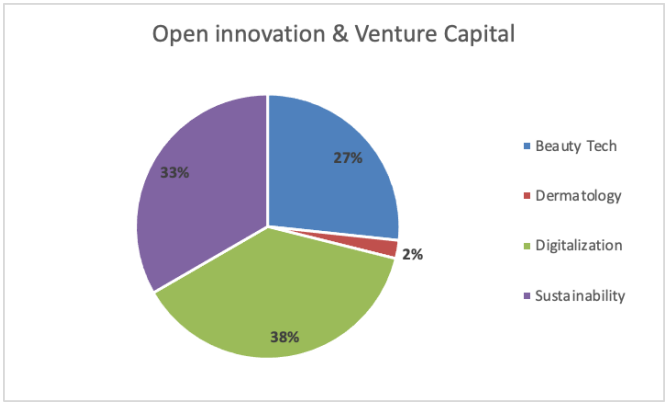


Exhibit 21: Open innovation and venture capital in the beauty industry

- For what concerns innovation initiatives in **dermatology, the analysis does not reveal a clear association between theme and innovation process**: in this segment indeed, companies seem to behave differently, and this does not allow

to show a net prevalence of one process among internal development and partnership.

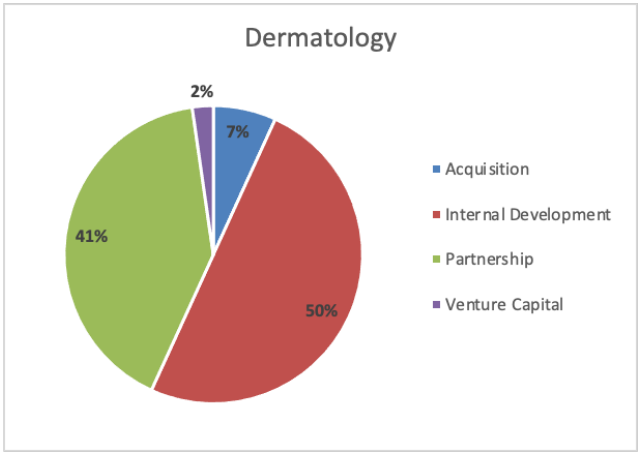


Exhibit 22: Innovation processes in dermatology in the beauty industry

Now that we have concluded our study, we can state that the innovation strategy overview in the beauty industry confirms that sustainability, beauty tech, and ingredient innovation are the dominant drivers shaping the sector. Across the 340 innovation-themed press releases analyzed, there are clear patterns and strategic directions that uncover how leading beauty companies approach innovation based on the area of knowledge, level of expertise required, and the strategic value of the project to their business.

The results confirm that companies do not have a one-size-fits-all approach to innovation: the beauty industry is being transformed, where sustainability is no longer a differentiator but a given, technology fueling personalization and consumer engagement, and ingredient transparency being the driver of consumer trust and brand reputation. The future, indeed, requires beauty businesses not only to embed sustainability in their very business models entirely, with a strong emphasis on green product creation and transparent dialogue regarding environmental performance, but even to leverage technology to enhance product performance and customer satisfaction, through the application of AI, digital platforms, and data-driven personalization to meet evolving consumer needs. Moreover, there is the need to invest

in ingredient technology and transparency, with younger generations demanding science-validated and multi-functional beauty products with transparent benefits and sourcing.

Ultimately, it seems as the industry's future will be determined by those who not only react to trends but actually develop the next generation of beauty innovation. To summarize, an overview of the key insights obtained from this analysis can be found in the table below (Exhibit 22).

Innovation Theme	Predominant Processes	Key Findings
Sustainability	Partnerships	51% of sustainability initiatives rely on collaborations.
Beauty Tech	Internal R&D	53% of core beauty tech innovations developed internally.
Ingredients	Internal R&D	82% of ingredient innovation carried out in-house.
Dermatology	Mixed (Internal + Partnerships)	No clear prevalence; varies by company culture.
Digitalization	Partnerships, Open Innovation, VC	50% partnerships, 33% open/startup-based innovation; highly volatile field.
Expansion (Markets/Portfolio)	Acquisitions	83% of acquisitions aimed at market or portfolio growth rather than breakthrough innovation.

Exhibit 23: Overview aggregate analysis

3. Interview to an innovation expert from the Beauty Industry

3.1 Introduction and scope of the Interview

As a third phase of our investigation, we decided to check our findings through a qualitative approach by conducting an interview with an innovation management expert who is professionally involved in the beauty sector. The interviewee is Vittoria Salemi, a professional who is employed at L'Oréal, which is the global leader of the cosmetics industry, as a Global Innovation Project Manager for L'Oréal Paris Haircare, taking care of international product development.

The aim of the discussion was to determine if the most significant dynamics that have been witnessed in the previous chapters, i.e. the findings resulting from the theoretical literature (Chapter 1) and our own empirical results from our study of press releases (Chapter 2), are reflected in the actual actions and strategic choices of a top company in the industry. The interview, which has been fully transcribed in the appendix, gave us rich insights and served as a prime source of validation for the research. Through first-hand contact with a practitioner operating within the everyday confines of corporate innovation, we were able to trace theoretical models and empirical results against lived experience and learn more about how innovation is actually managed within a global business.

Before we address the main findings that were a result of this conversation, we are going to give a brief overview of how the interview was structured and why the questions were queried. This will be useful background information in understanding the responses and viewing these in relation to the overall aims of our research.

3.2 The interview methodology

In order to gain qualitative feedback that could augment the result of our literature review and our empirical research, we employed a **semi-structured interview format** that is familiar in academic research as a flexible but rigorous means of exploring expert opinion: this was established to allow controlled but conversational discussion to guarantee that those specific matters of interest would be addressed while also offering the respondent the freedom to elaborate at length from experience.

The interview was conducted via Microsoft Teams lasted approximately 30 minutes. It was organized in terms of four main research questions, which came directly from the theoretical framework outlined in Chapter 1 and from the themes that were identified during the analysis of 340 press releases on innovation from five leading beauty companies. Every question was posed with the following in mind:

1) **Alignment with research objectives**: The questions were formatted to ask how companies choose their innovation processes with regard to the knowledge domain (non-core versus core), the strategic importance, and the level of uncertainty.

2) **Empirical comparability**: Every question took its cue from the principal trends and relationships that emerged in the press release data, with a view to testing whether they ring true from the practitioner's perspective.

3) **Openness to other perspectives**: Although all the questions were well-theoretically justified, the formulation and tone were open to reflection and narrative so that the interviewee could deliver nuanced examples and practical considerations that might not be extracted from quantitative facts alone.

The target respondent profile for the interviewee was similarly selected with care to ensure relevance and credibility. The interviewee is indeed an innovation and product

development manager at L'Oréal with firsthand access to strategies on R&D investments, partnership arrangements, and embracing new technologies — all of which are deeply relevant to the purpose of this study. The interview began with a short overview of the setting and objectives of the research, and then proceeded through the four main questions, with occasional follow-ups to clarify or intensify responses to specific questions. The interview was recorded with permission and later transcribed for analysis and use in discussion of results.

This methodological choice allowed us not only to experiment the practical validity and robustness of our hypotheses, but also to focus on the organizational and human elements framing innovation strategy — elements that are difficult to quantify but are central to the comprehension of actual firm decision-making. In the next section, we will see in detail the questions we have been using as a track to conduct the interview.

3.3 Structure and purpose of the interview questions

The interview was built around four core questions, which were thoughtfully devised to most appropriately meet the main research objectives of this thesis and theoretical framework outlined in Chapter 1. To assist in guaranteeing clarity, transparency, and reflection, the full set of questions was made accessible in advance to the interviewee, and she was able to view in advance the topics of discussion and prepare thoughtful responses. This approach not only ensured educated participation but also stimulated more spontaneous and more developed discussion in the course of the actual interview.

Each question was written with a clear analytical purpose, from the observed correlations between areas of innovation and stages of innovation in our quantitative investigation of 340 innovation-thematic press releases. We introduce the background of each question briefly below:

- Question 1 aimed to validate the central hypothesis that firms will employ **internal innovation processes** for activities within their **core competences** solidly ingrained, such as product development or ingredients, and **open or**

collaborative approaches (e.g., venture capital, partnership, or open innovation) if innovation is being performed in **non-core domains** such as digitalization or sustainability. This disparity emerged clearly through literature (e.g., Cantamessa & Montagna, 2023) and evidence, and the question was worded to affirm if this trend manifests in practice-based innovation management.

- Question 2 continued to question whether more deeply by comparing **structured partnership**-based collaborations, typically used in product-innovation contexts (e.g., green packaging or beauty technology devices), with venture-based or open approaches, more typically observed in digital or service-innovation contexts (e.g., AI or metaverse projects). The purpose of this question was to elicit the reasons for differences that emerge in practice, and to explore how firms decide whether each process is suitable for a specific innovation context.

- Question 3 shifted the question from **process selection to outcome**, asking the interviewee to reflect on whether different styles of innovation produce differential rates of success, particularly in terms of the ability to bring innovation to market and deliver financial or strategic effect. This question was elicited by findings in the literature (e.g. Laursen & Salter, 2006; Hoang & Rothaermel, 2010) on the relationship between the innovation process and performance.

- Question 4 invited a broad exploration of the **underlying strategic motivations** dictating the choice of innovation process. Drawing on foundational concepts in the literature (e.g. dynamic capabilities, strategic commitment, absorptive capacity), the question offered space for the interviewee to comment on un-observable factors, such as organizational confidence, internal skillset, and innovation perceived value, which are difficult to obtain through document analysis but critical to corporate innovation behavior comprehension.

Together, the questions produced a scaffolded yet open-ended framework for dialogue, which enabled the interviewee to provide answers that were drawn from real experience,

and which enabled a rich comparison between theoretical models, empirical tendencies, and managerial practice.
The full text of the interview questions is presented in the appendix.

3.4 Interview outcomes

The qualitative interview with Vittoria Salemi, Global Innovation Project Manager at L'Oréal Paris Haircare, offered direct and valuable confirmation of the findings emerging from both our theoretical framework and empirical investigation: her answers aligned indeed with our key hypotheses regarding the relationship between innovation domain and innovation process, while also introducing practical considerations related to internal capabilities, strategic commitment, uncertainty, and notably, volatility, a theme that emerged particularly in the context of digital innovation.

A primary insight from the interview was the confirmation that **internal innovation processes are predominantly used when innovation takes place within core domains and product-related elements**. This observation, drawn from both academic theory and our press release dataset, found strong resonance with Salemi's statements:

"L'Oréal invests heavily in internal innovation: we have laboratories all over the world and very advanced development. We have a team of 4,000 scientists worldwide."

She emphasized the company's significant in-house capabilities, explaining that

"We practically do not outsource anything... All the innovations we make are internalized by L'Oréal."

This internalization also extends to areas such as sustainable packaging, which might appear at first as candidates for external collaboration. However, Salemi clarified:

"When it comes to sustainable packaging, we collaborate with external companies only for the materials, but the design and production of the packaging are done in-house."

This insight confirms that the presence of strong internal competences, coupled with strategic alignment, leads L'Oréal to maintain control over innovation execution.

By contrast, when discussing **non-core and non-product-related domains that imply a specific expertise** such as digitalization, AI, and virtual technologies, Salemi confirmed that L'Oréal is more inclined to **adopt open and collaborative approaches**. She stated:

"For a large company like L'Oréal, it makes sense to outsource parts that are less connected to core product development. We simply don't have the internal expertise."

Tools such as Opera and TAG, she explained, are used internally but not owned by L'Oréal:

"Opera isn't a L'Oréal platform; it's a supplier that became one of our vendors… Tools like TAG are developed specifically for L'Oréal but are not owned by L'Oréal."

Crucially, Salemi also addressed the **volatility and fast pace of change** in these innovation domains, which she identified as a **key reason why L'Oréal often turns to startups rather than internal development**. In her words:

"L'Oréal has to rely on startups or new companies to lead new innovations. Startups are the ones that are creating these new ideas. That is why we purchase them rather than trying to build capabilities ourselves from scratch within, also because it would take us too long and the digital innovation environment is so dynamic and volatile, we would not have enough time to develop and keep up."

This is a point that highlights a basic dynamic of innovation management: when the outside world is dynamic, and rapidly changing, internal development cannot be fast or responsive enough to compete. In such situations, relying on startups offers exposure to new ideas and shorter time-to-market, while eventual acquisition ensures strategic fit and control. Salemi's words confirm that volatility, in addition to uncertainty, is a critical factor that pushes firms toward agile and startup-driven innovation strategies—especially in digital and tech-enhanced domains.

The logic of acquisition also emerged as a consistent strategy for bridging the gap between external collaboration and internal control:

"We usually start with a collaboration or investment and later proceed with acquisition. It's common for us to acquire the startups that develop such technologies."

She cited ModiFace as an example of a successful acquisition of a digital startup initially supported through collaboration.

As for partner types, the interview again confirmed our findings that **established companies are the preferred partners in traditional, stable domains such as packaging, whereas startups dominate the digital innovation landscape**.

"Packaging companies have existed since the early days of L'Oréal... They're highly structured... So it's not surprising we partner with long-established companies in this area and rely on startups for digital innovation."

This practical distinction reflects differing ecosystem maturity levels, which directly impact collaboration models.

Regarding the outcomes and costs of different innovation approaches, Salemi noted that

"Financially, internal projects are generally cheaper. External ones usually cost more. That's the only KPI I'd confidently give, but with internal projects, you have an upfront investment, but then you own and personalize the outcome. With external tools, you often end up paying more over time."

This supports literature suggesting that internalization, while more resource-intensive upfront, may offer greater efficiency and customization in the long run—provided that volatility and uncertainty are low enough to justify internal investment.

When asked **about strategic commitment**, Salemi fully agreed with the idea that **more critical innovations are typically managed internally**:

“You wouldn’t invest the same amount of money into a virtual try-on tool as you would in a production plant. So yes, it’s also about priorities.”

The choice of process is not purely operational but reflects L’Oréal’s hierarchy of strategic needs.

Finally, Salemi echoed our literature-derived hypothesis that innovation decisions are shaped by both the firm’s capabilities and its perception of business relevance. She stated:

“Internalizing something requires significant investment. L'Oréal prefers to invest in R&D, ingredients, and its core rather than in non-core areas. So it tends to outsource those.”

When asked to summarize the logic, she concluded concisely:

“It’s both a matter of capabilities and business relevance.”

In conclusion, the interview with Vittoria Salemi provided a strong, practice-based validation of the theoretical and empirical dimensions of this thesis. Her testimony clearly supports the notion that the choice of innovation process is tightly linked to the domain of innovation, and is further shaped by contextual variables such as internal knowledge base, strategic importance, perceived uncertainty, and—importantly—volatility. Particularly in digital innovation, volatility and speed of change emerge as decisive factors pushing firms toward open, agile, and startup-based collaboration models. In contrast, areas of lower volatility and uncertainty—like packaging or formulation—are typically managed through internal development or stable, long-term partnerships. These nuanced insights bridge the gap between theory and practice, offering a realistic and strategically grounded view of how innovation is managed in one of the world’s leading beauty companies. To summarize, an overview of the key insights obtained from this interview can be found in the table below (Exhibit 23).

Topic	Evidence from Interview	Strategic Implication
Core vs. non-core innovation	Core domains (e.g., ingredients, packaging, product formulations) are developed almost entirely in-house.	Confirms that distinctive competences remain internal to ensure control and differentiation.
Digitalization & AI	Digital initiatives (e.g., AI tools, AR/VR, platforms) rely on startups/external partners; later often acquired (e.g., ModiFace).	Volatile and fast-changing domains push the company toward open innovation and acquisitions.
Partner type	Established partners for stable fields (packaging); startups for emerging areas (digital).	Collaboration model depends on ecosystem maturity.
Volatility	High dynamism in digital innovation makes internal R&D too slow → reliance on startups.	Volatility is a decisive factor shaping process choice.
Costs	Internal projects = higher upfront investment but more efficient long-term; external = higher long-term costs.	Confirms trade-off between efficiency, control, and speed.
Strategic priorities	Higher strategic relevance → stronger commitment and internalization (e.g., production plants vs. virtual try-on tools).	Resource allocation follows a hierarchy of priorities.

Exhibit 24: Key insights from the interview

3.5 Methodological limitations and ethical considerations

As with any qualitative research, there are limitations to this interview. Mainly, the knowledge obtained is from the single individual, working in one specific company and position. While L'Oréal is a global leader and the interviewee is employed in a strategically significant position of innovation management, what she has to say might not be perfectly translatable to the broader industry or to other departments in the same company. Therefore, the findings of this interview must be read as contextual affirmations rather than findings applicable to all cases.

Second, while every attempt was made to make the interview unstructured, there is potentially some confirmation bias because the questions were written in such a way as to test for pre-examined hypotheses from the literature and empirical observation. To mitigate this, the interview was made open-ended and exploratory, and the respondent encouraged to give contradictory views or unexpected insights.

From an ethical point of view, the interview was conducted fully adhering to rules of informed consent and confidentiality. The interviewee was made aware of the academic aim of the research and the use of the information obtained. The interview was recorded, transcribed, and syntactically refined for linguistic clarity using Otter.ai, with prior consent. The transcription was used solely for research purposes.

4. Conclusions

This thesis looked at why large corporations select their innovation processes (i.e. internal R&D, partnerships, open innovation, acquisitions, and venture capital) based on the type of knowledge domain where innovation occurs. The objective was to find out if specific strategies are associated with different types of contexts for innovation in the beauty industry, and how much strategic relevance, knowledge relatedness, and volatility influence such decisions.

To answer this question, the research took a hybrid and exploratory approach, mixing theoretical foundation with empirical observation and qualitative insight. The first chapter of the thesis used significant contributions of the literature to explain how firms manage innovation in reference to their competences, knowledge structure, and change dynamics of their environment: organizational ambidexterity, absorptive capacity, and dynamic capabilities provided the basis for an explanation of the mechanisms that supported strategic choices.

The second part instead focused on an initial empirical investigation of 340 innovation-themed press releases published in a decade by five top beauty firms. The reports were sorted by way of a semi-automated process combining artificial intelligence with human validation to facilitate a structured and scalable analysis by firm and year. The classification was done considering on both the area of innovation (e.g., digitalization, ingredients, sustainability) and the process undertaken in order to pursue it (e.g., partnerships, in-house development)., and findings showed that innovation strategies are not a case of one-size-fit-all but vary by the nature of the knowledge and the extent to which it aligns with the firm's capabilities.

The third chapter eventually provided qualitative support to these trends in an interview with a manager of innovation at L'Oréal: the discussion gave concrete examples of how firms distinguish between domains that are developed in-house—classically those that are most clearly aligned with core competencies—and domains that are tackled through partnership or acquisition externally, particularly where the domain is volatile or

inadequately supported in-house. The interview also highlighted practical concerns such as time constraints, resource planning, and long-term strategic focus, which are barely discernible from official communications.

Overall, research indicates that businesses tend to invest in internal development when innovation is most strongly linked with their core technological or scientific competency and will increasingly look to external partners, start-ups, or open innovation when they are working in domains that are seen as barely complementary, unknown, or fast-moving. Structured collaboration is discovered to be the best solution when the knowledge space is close and steady, allowing business to access new capabilities while maintaining control and coherence.

Methodologically, the thesis brought to bear a pragmatic empirically informed strategy to large-scale document classification, maximizing the efficiency of AI resources and the interpretative depth of human judgment. This allowed for the extraction of patterns from corporate communication materials, and the conjunction with a qualitative perspective introduced further depth, particularly to decision-making logics that are premised on internal perceptions and strategic constraints.

This research brings a modest addition to explaining how innovation strategy is formulated and implemented in real life, particularly in the beauty industry. It emphasizes the importance of adapting the innovation processes to the specific features of the sector in question rather than offering a one-size-fits-all approach. The outcomes can be beneficial for researchers involved in innovation governance as well as practitioners working with R&D, partnerships, or strategic planning.

Subsequent research could take this work further by examining how these strategic choices impact business performance measures such as time-to-market, product performance, or consumer acceptability. It could also be of interest to test this framework in other industries where similar tensions between internal know-how and external innovation sources exist, specifically in industries undergoing digital or sustainability transitions.

Lastly, this thesis suggests that how firms innovate is closely connected to the form of knowledge they seek to build. Engaging on this harmony can be an effective practical guide to understanding how firms build and maintain innovation competences in the continually declining, more uncertain and accelerating context.

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Appendix 1

Interview questions shared with the interviewee

Let me provide you with some context: as part of my master's thesis project, I am conducting research in the field of innovation management within the beauty industry. Specifically, we carried out an analysis of 340 innovation-related press releases issued by five key players in the sector, covering the period from 2014 to today. The goal of this analysis was to investigate whether there is any correlation between the domain in which innovation takes place (e.g., sustainability, digitalization, beauty tech, ingredients) and the business process adopted to develop the innovation itself (e.g., internal development, partnerships, open innovation, acquisitions, corporate venturing).

Our research revealed that certain correlations indeed exist between the innovation domain and the business process adopted to develop the innovation. I would now like to ask for your perspective to understand whether these findings resonate with your own experience and observations within the industry.

1. One of the main findings of our research is that companies tend to adopt a more open approach to the innovation process when they seek to innovate in knowledge domains that lie outside their core beauty expertise (for example, sustainability) or in areas that are less directly related to core product development (such as digitalization). Conversely, they tend to operate internal innovation processes for activities that lie within their core competencies (e.g. new formulations). Does this finding align with your experience and observations?

2. Digging deeper into the findings, we observed that when it comes to innovations that are more closely related to product development, companies tend to favor structured partnerships (for example, in the areas of sustainable packaging, or commercial-ready beauty tech products).

Conversely, innovations related to complementary services and digitalization (such as AI, the metaverse, etc.) these are more often fostered through venture capital investments or open innovation processes. Does this observation resonate with your experience? In your opinion, what are the reasons behind this difference?

3. Do you see differences among these different approaches, with respect to the success rate with which the results of innovation activities effectively reach the market? With what market and/or financial impact?

4. Given these differences, literature suggests a number of possible explanations, such as (i) a greater or lower strategic commitment towards achieving results that are perceived as more or less “core”, (ii) a greater or lower level of confidence in the objective value of these initiatives in leading to useful results, (iii) a greater or lower level of confidence in the firm’s subjective internal capability to carry out further development and bring the results to the market.
   Do you have any additional insights or reflections you would like to share on this topic?

Appendix 2

Interview transcript

Speaker 1: Hi Vittoria and thank you very much for having me for this interview. Let me start by providing you with some context: as part of my master's thesis project, I am conducting research in the field of innovation management within the beauty industry. Specifically, we carried out an analysis of 340 innovation-related press releases issued by five key players in the sector, covering the period from 2014 to today. The goal of this analysis was to investigate whether there is any correlation between the domain in which innovation takes place (e.g., sustainability, digitalization, beauty tech, ingredients) and the business process adopted to develop the innovation itself (e.g., internal development, partnerships, open innovation, acquisitions, corporate venturing).

Our research revealed that certain correlations indeed exist between the innovation domain and the business process adopted to develop the innovation. I would now like to ask for your perspective to understand whether these findings resonate with your own experience and observations within the industry.

Speaker 2: This work seems to be super interesting! I am eager to answer your questions.

Speaker 1: Great! Then let's start: One of the main findings of our research is that companies tend to adopt a more open approach to the innovation process when they seek to innovate in knowledge domains that lie outside their core beauty expertise (for example, sustainability) or in areas that are less directly related to core product development (such as digitalization). Conversely, they tend to operate internal innovation processes for activities that lie within their core competencies (e.g. new formulations). Does this finding align with your experience and observations?

Speaker 2: Yes, absolutely. Consider that L'Oréal invests heavily in internal innovation: we have laboratories all over the world and very advanced development. We have a team of 4,000 scientists worldwide. For example, we have a DMI site called RIO, where the entire product development team operates from a supply chain perspective, engaging with all our plants around the world. We have a great many of them, and therefore we have the ability to produce in-house. We practically do not outsource anything. Unlike companies that buy finished products from suppliers (like Intercos, which sells ready-made mascara), we internalize everything. All the innovations we make are internalized by L'Oréal. For example, when it comes to sustainable packaging, we collaborate with external companies only for the materials, but the design and production of the packaging are done in-house.

Speaker 1: So, regarding sustainable packaging, everything in the product development process is internal except for the materials part?

Speaker 2: Exactly, except for the actual production of plastic or glass. That part is outsourced, but everything else is internal.

Speaker 1: Got it. Another insight from our research is that when it comes to less product-development-related areas—like digitalization, NFTs, AI, augmented reality—companies tend to outsource more. Is this consistent with your experience?

Speaker 2: Absolutely, yes. The point is that for a large company like L'Oréal, it makes sense to outsource parts that are less connected to core product development. We simply don't have the internal expertise. Our core is product development—what we sell is the product. For things like AI, we try to make them our own, but by relying on suppliers. One example is L'Oréal's ChatGPT or platforms like Opera.

Opera isn't a L'Oréal platform; it's a supplier that became one of our vendors. We use it for storing and managing all our assets and content globally. So yes, we try to internalize them, but with external partners. We have external people managing these tools, but the goal is to make them as "ours" as possible. Tools like TAG are developed specifically for

L'Oréal but are not owned by L'Oréal.

Speaker 1: Sure. What about consumer-facing technology, like virtual try-on devices?

Speaker 2: Those are actually ours. L'Oréal tends to internalize beauty tech by acquiring startups. For example, ModiFace, which enables our virtual try-on features, was a startup in a Parisian hub and was later acquired by L'Oréal. We aim to internalize all technological devices, but we need external players. So, we usually start with a collaboration or investment and later proceed with acquisition. It's common for us to acquire the startups that develop such technologies.

Speaker 1: That brings me to the next point. What emerged from our research is that companies use different approaches depending on how closely the innovation is related to product development. For example, for sustainable packaging materials, they tend to partner with well-established companies. But for digital innovations—metaverse, AI—they prefer working with startups, maybe through open innovation or venture capital. Does this sound accurate to you?

Speaker 2: Totally, and I think it's because real innovation often comes from startups. L'Oréal has to rely on startups or new companies to lead new innovations. Startups are the ones that are creating these new ideas. That is why we purchase them rather than trying to build capabilities ourselves from scratch within, also because it would take us too long and the digital innovation environment is so dynamic and volatile, we would not have enough time to develop and keep up. It's a logical process.

Speaker 1: And why do you think that for more "core" innovations like sustainable packaging, L'Oréal partners with large, established companies?

Speaker 2: It's about industry structure. Packaging companies have existed since the early days of L'Oréal. Think of supermarket products—plastic containers have been around for decades. These companies have had to evolve to meet sustainability requirements, and they're highly structured. Some of our suppliers are based in Milan

but have operations around the world so they can serve global players like L'Oréal, P&G, Unilever. Replicating packaging with consistent color across markets is incredibly complex. So, it's not surprising we partner with long-established companies in this area and rely on startups for digital innovation.

Speaker 1: So you're saying it makes sense to partner with established packaging suppliers and leave them innovate in their ambit but rely on startups for newer areas like digital?

Speaker 2: Exactly.

Speaker 1: Let's move to the third question. Do you think there's a difference in success rate between internal and external innovation projects? Or in financial impact?

Speaker 2: Financially, internal projects are generally cheaper. External ones usually cost more. That's the only KPI I'd confidently give. In terms of success rate, it's hard to compare product development projects with AI or digital projects—they're fundamentally different. With internal projects, you have an upfront investment, but then you own and personalize the outcome. With external tools, you often end up paying more over time.

Honestly, I can't compare the success rate directly. One is core to the product; the other is more peripheral.

Speaker 1: That makes sense. Another explanation we've seen in the literature is that it also depends on strategic commitment. If an initiative is critical—like core product development—L'Oréal is more likely to keep it internal. But for something like virtual try-on, which is nice to have but not core, it might make more sense to outsource or collaborate. Do you agree?

Speaker 2: Absolutely. You wouldn't invest the same amount of money into a virtual try-on tool as you would in a production plant. So yes, it's also about priorities.

Internalizing a process is expensive. So it's often better to partner with a startup than to build everything internally from scratch hiring talent, developing infrastructure—absolutely.

Speaker 1: Lastly, literature also suggests that confidence in the value of the innovation plays a role. If L'Oréal believes a particular innovation can truly differentiate its market proposition, it's more likely to invest internally. Does that resonate?

Speaker 2: I'm more on the product development side, so I can't speak to that fully. But yes, I think it's linked to what we said earlier. Internalizing something requires significant investment. L'Oréal prefers to invest in R&D, ingredients, and its core rather than in non-core areas. So it tends to outsource those.

Speaker 1: So it's both a matter of capabilities and business relevance?

Speaker 2: Exactly, both.

Speaker 1: Fantastic. That's all from my side—unless there's anything else you'd like to add?

Speaker 2: No, I think I've told you everything I could. Of course, I can't go into too much detail due to confidentiality agreements we sign when joining the company. But I've shared everything I'm allowed to.

Speaker 1: Great, thank you so much!