



Gül Saldıraner

EG Partner
CPA
Independent Auditor
Sustainability Auditor
www.eg-econsulting.com

Structural Transformation and the New Competitive Framework in the Packaging Industry

The packaging industry has undergone a significant transformation in recent years. An industry that long expanded through economies of scale, operational efficiency, and increasing consumption volumes now faces a more complex competitive environment shaped by shifts in global demand dynamics, cost volatility, and supply chain pressures. The acceleration of consumption and e-commerce trends during the pandemic increased production capacity; however, the normalization of demand growth has brought supply–demand balance back to the forefront in certain markets.

These developments require packaging producers to focus not only on production volumes but also on profitability structures. The growing diversity of stock keeping units (SKU) within product portfolios, fluctuations in raw material and energy costs, and the bargaining power of large-scale buyers compel companies to address their commercial and operational strategies within a more integrated framework.

International analyses indicate that the packaging industry is shifting from a volume-driven growth model toward data-based profitability management and operational resilience. The widespread adoption of digital tools in pricing, customer segmentation, and maintenance processes demonstrates that this transformation is structural rather than temporary.

At the same time, the industry's transformation is not driven solely by market dynamics. Regulations that have entered into force or are under development in the European Union introduce new obligations concerning packaging design, recyclability, and material composition. This regulatory

framework moves sustainability beyond an efficiency-centered approach and calls for a reconsideration of business models and value chain design.

Accordingly, the current transformation in the packaging industry is shaped at the intersection of commercial pressures, the need for operational restructuring, and sustainability objectives driven by regulation. This article aims to assess these dynamics together and to evaluate the risks faced by the industry and its potential strategic orientations within an analytical framework centered on margin discipline, operational resilience, and regulatory compliance.

Evolution of the Packaging Industry: From Function to Strategic Value Creation

The historical development of packaging reflects the transformation of a functional solution born out of a basic need for protection into an economic and strategic component. In its early stages, simple protective solutions made from natural materials gradually evolved into standardized materials such as glass, metal, and cardboard with the spread of industrial production. The expansion of mass production and long-distance trade made packaging a critical element for product reliability and distribution efficiency.

The development of plastic materials in the second half of the twentieth century marked a significant turning point in the industry. Owing to their light weight and cost advantages, plastics increased both production and logistics efficiency. The role of packaging extended beyond physical protection and became part of brand visibility and consumer communication. Packaging was thus repositioned from a technical protective tool to a component of commercial value creation.

In the twenty-first century, the increasing complexity of global supply chains and the rise of e-commerce have further expanded the function of packaging. Today, in addition to protection and transportation, packaging performs multiple functions such as traceability, data transmission, and user experience enhancement. This development demonstrates that packaging is not merely a production input, but a strategic component of the value chain.

In recent years, sustainability debates have added a new dimension to this evolution. Efforts toward recyclable, bio-based, and alternative materials require performance and cost criteria to be assessed alongside environmental impact. From this historical perspective, the transformation currently facing the industry is not a temporary fluctuation, but a continuation of a long-term structural evolution.

Structural Pressures in the Industry: The Multi-Layered Margin Reality

Although the packaging industry has continued to grow in recent years, it has entered a more complex phase in terms of profitability dynamics. While global market volume expands, flexible, multi-layer, and high-barrier packaging segments display differing growth patterns. In particular, rising expectations regarding product safety and shelf life in the food, beverage, and healthcare sectors support demand for technical packaging solutions. This landscape indicates that the industry exhibits segment-based differentiation rather than a homogeneous structure.

However, the increase in overall market size is not reflected proportionally in firm-level profitability. The acceleration of e-commerce and at-home consumption during the pandemic led many producers to expand capacity. In the subsequent period of demand normalization, a weakening balance between capacity and demand has been observed in certain markets, and discussions of overcapacity have re-emerged. As emphasized in Bain & Company's 2026 report titled *Paper & Packaging*, excess capacity in the sector is not solely the result of demand contraction; overly optimistic growth assumptions during strategic planning phases and the delayed effects of capital-intensive production investments can also increase the risk of persistent oversupply. According to the report, a significant proportion of companies target profit growth at four times the market rate, yet only approximately 7 percent are able to achieve these ambitions. This situation renders capacity pressure a structural risk in a capital-intensive industry characterized by high fixed costs and large-scale production structures. When combined with increasing pressure from powerful buyers and intense price competition, margins may become more fragile.

Consolidation on the buyer side, particularly through large retail chains and fast-moving consumer goods (FMCG) producers, can create significant pressure on pricing and contractual conditions. High-volume orders are often accompanied by demands for lower unit prices, weakening the relationship between volume growth and profitability growth.

The growing diversity of stock keeping units (SKU) within product portfolios further increases operational complexity. Small-batch production, frequent mold changes, and customized demands can limit the advantages of economies of scale, making production planning and cost control more challenging. As product differentiation intensifies—especially in technically advanced packaging segments—the importance of operational discipline becomes more pronounced.

In addition, the dependence of key inputs such as plastics, paper and cardboard, and aluminum on global commodity markets generates volatility in raw material and energy costs. For producers operating under long-term contracts, these fluctuations can complicate pricing strategies. Investment

requirements related to sustainability and regulatory compliance may further increase the complexity of cost structures.

Within this framework, margin pressure in the packaging industry cannot be attributed to a single cause. Rather, it reflects a multi-layered structure shaped jointly by segment-based heterogeneous demand, post-pandemic capacity imbalances, buyer consolidation, SKU-driven operational complexity, volatility in input costs, and increasing compliance requirements. This situation calls into question whether a purely volume-driven growth approach remains sufficient and highlights the growing necessity of addressing profitability through segment selection, customer portfolio management, pricing discipline, and operational effectiveness.



Why Are Commercial and Operational Excellence on the Agenda?

Increasing margin pressure in the packaging industry, volatility in raw material and energy costs, changes in financing conditions, and the influence of powerful buyers on pricing demonstrate that focusing solely on cost reduction is no longer sufficient for companies. This multidimensional pressure environment brings the reassessment of management processes to the forefront and necessitates addressing commercial and operational decisions within a more integrated framework.

Commercial Excellence: Pricing Discipline and Selective Profitability Management

Commercial excellence encompasses practices such as restructuring pricing approaches, customer segmentation, product- and stock keeping unit (SKU)-based profitability analyses, and portfolio optimization. Under increasing competitive and cost pressures, it has become more evident that not every customer and every product generates the same level of contribution. This situation indicates that a purely volume-driven growth approach may no longer be sufficient.

Selective profitability management refers to directing company resources toward customer and product segments with higher margin-generating capacity, while systematically reassessing volumes that provide lower contribution. This approach places indicators such as gross contribution, operating margin, and cash generation capacity at the center, rather than focusing solely on sales volume. Commercial performance is therefore evaluated not merely through revenue growth, but through value creation.

Sectoral assessments suggest that strengthening commercial discipline can produce meaningful improvements in margin performance. In Bain & Company's 2023 industry reports, it is stated that the systematic institutionalization of commercial excellence practices can deliver measurable contributions to operating profitability. In its 2026 assessments, it is further noted that companies systematically applying commercial excellence have achieved growth rates reaching two to three times the industry average. These findings underscore the importance of pricing strategies and customer- and product-level profitability analyses for financial resilience.

Channel-based pricing discipline is also considered an integral part of this framework. Analyzing margin structures separately across different sales channels—such as large retail chains, export customers, or industrial buyers—enables commercial decisions to be made on a more transparent basis. This approach goes beyond cost control; it allows for a more selective evaluation of which customer and product groups can sustainably drive growth.

In this context, commercial excellence shifts the focus from the question of “how much is sold” to “which product is sold to which customer and at what margin structure.” As a result, the relationship between volume growth and profitability becomes more visible, and commercial decisions can be assessed on a more analytical foundation.

Operational Excellence: From Efficiency to Resilience

Operational excellence refers to managing production assets not only more efficiently, but also in a more predictable and resilient manner. In packaging production lines, process standardization, systematic monitoring of overall equipment effectiveness (OEE), and performance indicators can have a direct impact on cost structures, capacity utilization, and delivery reliability. In an environment of increasing margin pressure, operational performance has become more visible not only in the context of cost control, but also in terms of financial stability and continuity.

Standardizing processes and monitoring performance through measurable metrics are critical for reducing error rates, limiting unplanned downtime, and controlling production variance. Sectoral assessments indicate that integrating operational processes with digital solutions can generate improvements in supply chain efficiency and maintenance practices. More

systematic monitoring of production data supports faster root cause analyses and enables decision-making processes to advance on a data-driven basis.

The reactive maintenance approach based on post-failure intervention is increasingly being complemented by data-driven and predictive maintenance practices. By analyzing condition and performance data collected from production lines through analytical tools, the ability to detect equipment failures before they occur has improved. This approach contributes to more controlled management of maintenance costs and the reduction of unplanned downtime. According to Bain & Company's 2026 assessments, AI-supported maintenance applications influence not only failure prediction, but also production continuity and working capital efficiency. Recent implementations indicate maintenance cost reductions of 17–23 percent and decreases in spare parts inventories ranging from 20–40 percent. These improvements are reported to have meaningful effects on overall equipment effectiveness and operating profitability indicators. Maintenance is thus evaluated not merely as a cost item, but as a critical component of operational continuity and reliability.

McKinsey & Company's operational performance analyses similarly demonstrate that packaging activities, although often positioned in the background, can have significant effects on overall company performance. The optimization of production processes, the integration of digital tools, and the disciplined monitoring of performance metrics can be influential not only for cost management, but also for delivery reliability and customer satisfaction.

Digitalization and Smart Packaging: The Intersection of Two Axes

One of the interaction areas between commercial and operational excellence is digitalization. In particular, smart packaging solutions can influence both operational processes and commercial decisions by providing data visibility throughout the supply chain.

Technologies used in this context include Radio Frequency Identification (RFID) systems, QR code-based tracking solutions, Internet of Things (IoT) sensors, and blockchain-based traceability infrastructures. These applications enable products to become more traceable from production to end user, facilitate the management of recall processes, and contribute to increased transparency across the supply chain.

Smart packaging systems are not limited to enhancing operational visibility; they can also create direct contact points between the consumer and the brand, offering opportunities for data-driven analysis. This development provides a foundation for shaping commercial strategies in a more targeted manner.

Sectoral assessments indicate that supply chain resilience and operational agility are gaining greater importance in an environment characterized by uncertainty. In a context of intensified input price volatility and demand fluctuations, integrated and data-driven supply chain management has become a more visible management domain—not only for operational efficiency, but also for monitoring margin stability.

Financial Resilience

Operational excellence and commercial discipline are increasingly associated with financial resilience in an environment where margin pressure has become more pronounced. These practices are evaluated not merely as operational improvement efforts, but as management instruments that can influence cash flow stability, borrowing capacity, and long-term competitive performance.

In a context of rising interest rates, higher financing costs, and investment uncertainty, companies are focusing not only on revenue size, but also on the quality of profitability, cash generation capacity, and capital efficiency. A selective profitability approach brings the reassessment of low-contribution volumes to the forefront, while operational discipline contributes to managing working capital requirements and cash losses arising from unplanned downtime.

Within this framework, financial resilience is addressed beyond income statement performance, incorporating balance sheet structure, working capital management, and capital allocation strategies. In an environment of increasing financing costs, evaluating investment decisions through the lens of cost of capital and payback period becomes more visible in terms of ensuring the sustainability of transformation investments.

Accordingly, the link between commercial and operational discipline and financial flexibility and adaptive capacity becomes more evident in periods of uncertainty. These practices thus influence both resilience during downturns and the ability to seize investment opportunities under more favorable economic conditions.



Sustainability: From Efficiency to Structural Transformation

In the packaging industry, sustainability has long been addressed in conjunction with operational efficiency improvements. Measures such as reducing energy consumption, lightweighting materials, minimizing waste, and increasing recycling rates can both limit environmental impact and create cost advantages. For this reason, sustainability has often been associated with the optimization of production processes.

The emerging regulatory framework and evolving market expectations, however, indicate that the scope of sustainability has expanded. The circular economy approach calls for the reassessment of the entire life cycle of packaging, from the design stage to post-use management. In this context, recyclability, reuse systems, and recycled content requirements are addressed not merely as technical improvements, but as factors that influence business models and value chain structures.

Reuse systems represent one of the more visible examples of this transformation. The reuse approach envisages packaging being used for the same function across multiple cycles. This requires the coordinated design of collection infrastructure, cleaning and refilling processes, and data monitoring mechanisms. Accordingly, reuse practices are linked not only to product design, but also to organizational and logistical arrangements.

Within this framework, sustainability extends beyond the objective of “using less material” and becomes more directly associated with system design and value chain structuring. Sectoral analyses indicate that sustainability practices can be connected to energy costs, operational efficiency, and long-term competitive performance. This development contributes to making the link between sustainability and financial performance more visible.

In particular, packaging regulations that have entered into force in the European Union place sustainability performance within a more measurable and traceable framework, moving it beyond the realm of voluntary corporate

commitments. As a result, sustainability is evaluated not only as an area of operational improvement, but also as a transformation domain closely linked to competitive parameters.

European Union Packaging Regulations

The transformation observed in the packaging industry cannot be explained solely by market dynamics. The Packaging and Packaging Waste Regulation (Regulation (EU) 2025/40) adopted in the European Union restructures the rules governing the sector within a directly applicable framework. Unlike the previous Directive 94/62/EC, which set targets for Member States, this Regulation contains directly applicable provisions and establishes a more comprehensive structure covering the entire life cycle of packaging, beginning from the design stage.

The new Regulation is structured along three main axes:

- **First**, the design-based regulatory approach (Design-based regulation / Design for Recycling). After 2030, the placing on the market of packaging that does not meet specified performance criteria will be restricted. Under the “design for recyclability” principle, material composition, separability levels, and recyclability performance are linked to technical criteria. In addition, recycled content obligations are introduced for certain plastic packaging categories. These provisions may render the compliance process more complex, particularly for multi-layer and hard-to-separate packaging formats.
- **Second**, reuse targets. Gradual reuse rates are defined for 2030 and 2040 for certain packaging formats, with binding targets foreseen for the transition to reuse systems, particularly in transport and selected sales packaging. Unlike conventional recycling, the reuse approach involves using packaging for the same function across multiple cycles. These targets require not only technical adaptation, but also an organizational framework encompassing logistics infrastructure, data monitoring systems, and take-back mechanisms. The inclusion of exemption mechanisms linked to economic feasibility for certain transport packaging formats indicates that the Regulation contains areas of flexibility in its implementation.
- **Third**, Extended Producer Responsibility (EPR) and traceability obligations. Data-based reporting, financial contribution systems, and waste management responsibilities are more comprehensively defined for packaging producers and companies placing packaging on the market. This contributes to placing sustainability performance within a more measurable and comparable framework.

Within this regulatory context, the scope of competitive parameters appears to be expanding. In addition to price, quality, and delivery performance, factors such as recyclability performance, reuse capacity, carbon intensity, material transparency, and data traceability are becoming more visible in decision-making processes.

Due to its high level of trade integration with the European Union, the Turkish packaging industry is directly affected by these regulations. The linkage of sustainability performance in export markets to more measurable criteria necessitates a more systematic compliance approach, from design decisions and material selection to data reporting processes. For export-oriented producers focusing on technically complex packaging formats, this compliance process is likely to generate more pronounced effects. Regulatory alignment thus becomes not only a legal requirement, but also a strategic issue linked to market access and competitive positioning.

Within this framework, regulatory compliance is evaluated as a comprehensive transformation domain affecting internal company processes, from design decisions to supply chain structuring. As highlighted in Bain & Company's 2026 report, new regulations are transforming not only product design, but also the traceability and geographic configuration of supply chains. The report notes that regionally scaled, shorter, and highly traceable supply chains are being positioned not merely as compliance mechanisms, but as strategic elements associated with competitive advantage.

The Triple Framework of Structural Transformation in the Packaging Industry

The transformation observed in the packaging industry can be assessed not as the sum of independent developments, but as a structural repositioning process concentrated along specific axes. Analytically, this transformation can be understood as taking shape around three main dimensions:

1. Margin Discipline and Selective Value Creation

In an environment where a volume-driven growth approach is no longer sufficient on its own, customer- and product-based profitability analyses have become more visible. Pricing strategies, portfolio optimization, and commercial discipline practices are increasingly associated not with total sales volume, but with the preservation of a sustainable margin structure.

2. Operational Resilience and Digital Integration

Process standardization, predictive maintenance practices, and data-driven performance management are gaining importance not only for cost control, but also for supply chain reliability and delivery continuity. Digitalization stands out as an intersection point between commercial and operational practices.

3. Regulation-Aligned Value Chain Design

Within the framework of European Union regulations, packaging design, material composition, and post-use management are being evaluated as more strategic decision areas. Recyclability performance, reuse systems, and traceability infrastructure are becoming more directly linked to competitive parameters.

When these three axes are considered together, it becomes evident that the transformation in the packaging industry extends beyond discussions of operational efficiency. It points to a broader framework connected to business model structures, capital allocation choices, and competitive positioning.



Conclusion and Assessment

For many years, the packaging industry has been positioned as a production field primarily assessed through economies of scale and volume growth. Today, however, competitive dynamics are evolving into a more complex and multidimensional structure. Discussions of overcapacity, pressure from powerful buyers, volatility in raw material prices, and rising financing costs make it necessary to address value creation capacity not only through production volume, but also through strategic positioning and financial discipline.

Similarly, sustainability is moving beyond efficiency-oriented improvements and becoming more directly associated with business model and value chain design. European Union packaging regulations place this transformation within a more measurable and comparable framework, contributing to the growing prominence of recyclability performance, reuse systems, carbon intensity, and data transparency within competitive parameters.

The Turkish packaging industry has reached a significant scale in terms of production capacity, export performance, and technological investment, and has demonstrated a high level of integration with the European market.

This integration indicates that sustainability and regulatory compliance should be evaluated not merely as environmental obligations, but as transformation areas linked to commercial strategy, capital planning, and organizational structuring.

It is evident that the change observed in the packaging industry cannot be reduced to a single determinant. The interaction between margin management, digitalization, sustainability practices, and financial flexibility points to a multilayered structure of sector performance.

In this context, the industry is being repositioned at a critical juncture where market conditions intersect with regulatory dynamics. In the period ahead, competitive advantage is likely to be shaped not by scale expansion alone, but by disciplined capital allocation, data-driven decision-making, and the capacity to manage regulatory compliance in an integrated manner.



REFERENCES

1. European Union. (2024). *Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste*. Official Journal of the European Union. <https://eur-lex.europa.eu/eli/reg/2025/40/oj/eng>
2. McKinsey & Company. - *Packaging: The underrated performance and value driver*. <https://www.mckinsey.com/capabilities/operations/our-insights/packaging-the-underrated-performance-and-value-driver>
3. Bain & Company. - *How paper and packaging companies can catch up in commercial excellence*. <https://www.bain.com/insights/how-paper-and-packaging-can-catch-up-paper-and-packaging-report-2023/>
4. Bain & Company.- *Paper & Packaging Report 2023*- <https://www.bain.com/insights/topics/paper-and-packaging-report/2023/>
5. Bain & Company. - *Paper & Packaging Report 2026* <https://www.bain.com/insights/topics/paper-and-packaging-report/>
6. B&R Industrial Automation GmbH - *Packaging 4.0 Enabling operational excellence* - <https://www.br-automation.com/fileadmin/Packaging-4.0-Enabling-operational-excellence-8fe12acd.pdf>
7. Packaging Gateway - *Enhancing efficiency and standardisation in packaging operations* - <https://www.packaging-gateway.com/features/enhancing-efficiency-and-standardisation-in-packaging-operations/>
8. ELLEN MACARTHUR FOUNDATION - *Measuring reuse in the Global Commitment* - <https://content.ellenmacarthurfoundation.org/m/b8eb408fdbdae87/original/Measuring-reuse-in-the-Global-Commitment.pdf>
9. Republic of Türkiye Ministry of Trade – *EU Packaging and Packaging Waste Legislation* - <https://ticaret.gov.tr/dis-iliskiler/yesil-mutabakat/ab-dongusel-ve-surdurulebilir-sanayi-politikalari/ab-ambalaj-ve-ambalaj-atigi-mevzuati>