Exponential success through integrated supply chain optimization, ecomotional intelligence and reputation-based leadership: Zara model

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You need to have five fingers touching the factory and five touching the customer.’ Amancio ORTEGA, Inditex Chairman

Abstract. Fast fashion figures among the most lucrative using industries of the modern economies. With $25 billion annual sales in 2018, Zara that pioneered fast-fashion art has achieved an outstanding rapid surge, conquering 96 markets worldwide. The proposed paper presents the results of a critical thinking on how Zara applied innovation and continuous improvement in its operations and strong business model to maintain its unique competitive advantage over time. Our study shows that the secrets behind its exponential success are mainly a sophisticated sustainable supply chain, integrating efficiently the layers of design, sourcing, manufacturing, and distribution to stores for customers. It has to do with the best trade-off between low storage and shorter time response to customers in a contracted volatile market. Concisely, this research on specialized studies done over recent years seeks to help professional leaders grasp the best managerial and relational practices, along with developed operations’ research tools based on demand forecasting, inventory-distribution and clearance pricing optimization models. It aims also at enriching their knowledge with some non-quantitative methods related to clients’ preferences, ‘glocal strategy’ for adaptation, and social responsibility. As such, in view of the frequent conjunctural use of economic intelligence and emotional intelligence by Zara, we coined the neologism ‘ecomotional intelligence’, as a guide to belief and action.

1. Introduction

Fast fashion figures among the most lucrative industries of the modern economies. However, textile companies confronted with new constraints of rapid customer satisfaction, challenging environment and complexity of sustainment systems are bearing fierce competitiveness to preserve their benefits and respective market shares, if not to survive. In this context, Zara has achieved outstanding rapid surge, conquering 96 markets [1]. Inditex group where Zara is its largest subsidiary by more than 60%, propelled Ignacio to the 2nd fortune in Europe and 6th in the world [2], contributing by more than 2% of total social taxes to Spain economy [1]. By the eve of the 21st century, Zara’s average annual growth has extraordinarily accelerated to 34.8%, leading since then fast-fashion killers, as illustrated in the figure 1[3]. So, what are the secrets behind Zara’s exponential success, in such a very short period?
In fact, the keys to Zara’s huge success are mainly a sophisticated sustainable supply chain, integrating efficiently the layers of design, sourcing, manufacturing, distribution to stores for customers [4], within the strong business model on figure 2. It has to do with the best trade-off between low storage and shorter time response to customers in a contracted volatile market [5]. To learn from the prosper Zara’s experience, the proposed paper presents the results of a critical thinking on the factors to its exponential success through analyzing and synthetizing a large number of related scientific and specialized studies done over recent years. It seeks to help professional leaders and decision-makers grasp the best managerial and relational practices, along with operations’ research analytical tools applied for the continuous improvement of its efficient resilient supply chain. It aims also at enriching their knowledge with some implemented non-quantitative methods related to clients’ preferences and social responsibility. As such, due to the frequent conjunctional use of various forms of economic and emotional intelligence by Zara and other killers in low manner, we come up with a new paradigm, for which the neologism of ‘ecomotional intelligence’ has been coined. In short, a guide to belief and action for a lasting competitive advantage [6].

![Figure 1. Annual Growth 1994-2000 [3].](image1.png)

![Figure 2. SCM Organization of Zara [4].](image2.png)

After presenting the best practices of Zara’s integrated supply chain, this research paper will examine the climax role of applied demand forecasting and optimization models as a catalyst to durable competitiveness, to follow on with ecomotional intelligence and reputation-based leadership, expressive of corporate marketing and social responsibility.

2. **Best practices of integrated supply chain management**

For its continuous improvement, Zara focused on developing smart efficient supply chain management through the vertical integration of layers and key functions, just-in-time strategy, diversification and externalization.

2.1. **Vertical integration and just in time strategies**

Zara’s success highlights the decisive importance of high degree vertical integration and just-in-time approach to maintain tight control over the different stages of its supply chain for low storage levels and flexibility to speed response to customers and current fashion trends. We distinguish functional, geographical and informational integrations [7], contributing to the synchronization of all the layers with real-life visibility over on the shelf and online stores stocks [8], [9]. Zara's ownership of its supply-chain steps displayed in figure 3, allows for more rapid product turnover and full capability to produce and deliver in less than three weeks worldwide, empowered by eliminating limitations and not having risks. Controlled by a centralized command server, Zara also counts on its well-elaborated ICT system using essentially the RFID for identification and tracking, in addition to DBMS and ERP that enable both inter-functional and organization’s control, and improve planning at different levels [1]. Thanks to just-in-time strategy installed by Toyota along with the elaborated inventory model detailed in figure 4, the company schedules materials, goods and labor to arrive, then replenishes them when needed, avoiding idle-time loss and increasing benefits. In typical seasons, it produces 11,000 different items.
2.2. Diversification, externalization and low price sourcing

Zara is a brand that sells myriad types of fashion: basic, fast and seasonal. Besides textile, it extends its activities to housing equipment and other accessories. Concentrating on core functions, it externalizes high cost and workers’ consuming activities like merchandises’ transport, loading from warehouses and unloading to stores to less expensive specialized logistics providers. However, for basic, easy to forecast products, Zara uses cheaper suppliers with longer lead times.

![Figure 3. Zara Business Model [5].](image)

As such, while backward integration reduces cost and improves quality, forward integration reduces the bullwhip effect avoiding costly overproduction and asking scientists for uncertainty mitigation methods where demand forecasting probes significant impact [5].

3. Supply chain optimization and uncertainty mitigation

The huge rise of Zara relies predominantly on the use of sophisticated operations research tools and algorithms, in partnership with eminent scientists from cutting edge MIT’s operations research department and London Business School a few years ago. Hence, the company developed many optimization models alongside the global supply chain, but the most famous and impactful ones in terms of competitive advantage extension, are those dedicated to optimize the allocation of inventory across the two warehouses and the store network to increase sales, summed up hereafter in table 1.

It consists of inventory distribution and clearance pricing optimization on one hand, and uncertainty mitigation through demand forecasting on the other. Developed models propose for leaders how to determine key drivers and decision variables like shipment and storage quantities, markdown quantities, retail size-assortment or pricing amount of garments, subject to the general prevailing constraint of customers’ satisfaction. Pricing models help commercials find out if a manager is making mistakes [4].

Fast-paced clearance sales and pricing decisions apply to more than 11,000 different fashion designs introduced each year by Zara, considering the 70 countries’ different market conditions.

The proposed project consists in the development of a pricing mathematical model based on sales forecasting that estimates consumer’s reactions to price discounts and a linear optimization model that paves the way for profit-maximizing optimal price assignments.

![Figure 4. Zara’s Inventory Model.](image)

| Zara Goal / Developed Model | Method | Outcomes / Benefits |
|-----------------------------|--------|---------------------|
| Demand Forecasting and Inventory Distribution Optimization. | Developed distribution management algorithms to increase sales. | Increased sales by 3–4% additional revenues for 2007 and 2008 [12]. |
| - Determination of each inventory shipment it sends from its two central warehouses to its 1,500 stores worldwide [10]. | - Retail size-assortment view of a store’s inventory, linking stock levels/demand to select store replenishment quantities [11]. | |
| - Clearance Pricing Optimization | - Regression demand forecasting for each product at every store location and auto-correction of store manager predictions. | |
| | - Pricing mathematical model based | |
| | - Increase of 6% to | |
Models and reduced markdowns
for 110000 garments churned out annually in 96 countries, (less than 15%).
- Initial Shipment Demand Forecasting and Distribution Optimization. Best trade-off between large initial shipments to stores/stock at warehouse [14].
  - Data-driven model of forecast updating and a dynamic optimization formulation for allocating limited stock by location over time, reducing lost sales once initial ones observed. Zara’s clearance sales profits in 2009 [13].
  - Increase in season sales by 2% and reduction in unsold units by 4% in 2012 [15].

4. Leading by Social Responsibility and Ecomotional Intelligence

4.1. Zara’s social responsibility

Inditex-owned Zara confirms its innovative green engagement. Just recently, it announced a courageous transitional 2020-2025 plan regarding eco-friendly fabrics and recycling, that follows the Strategic Plan for a Stable and Sustainable Supply Chain 2014-2018 [16]. Besides organic and recycled, when asked what "Sustainable" means, a manager from Zara explained, ‘… prioritizing more energy- and water-friendly processes in the growing and manufacturing of these textiles.’ [17]. This ambitious plan also includes partnership with MIT scientists to research how to recover fibers from old garments using clean energy. Eco-efficient lighting, internal transport using bikes and electric vehicles, recycled and recovered materials and cardboards, besides eco-stores confirm the innovative green willingness and engagement of Zara, constantly enforced through auditing the conformity to the Code of Conduct.

In 2014, Zara achieved 95% of its sustainability supply chain plan thanks to innovation coupled with improvement, traceability and compliance for individual and common lasting wellbeing, product quality and safety status. The company also promotes its reputation and image by highlighting its citizenship through the application of good governance practices with an INDITEX investment of 48 million $ in education, social well-being and humanitarian programs, along with good workers conditions. As such, the 700 designers, alongside the 170,000-plus people working at the Company, produce quality fashion using their creative passion and put it at customers' fingertips. It explains how Zara achieved the record performance of 26.15 billion euros in net sales in 2018, and why it continues to share that growth with its employees.

4.2. Ecomotional intelligence and ‘glocal strategy’

Zara’s correct prediction of buying behaviors and trends’ analysis helps in taking quick decisions and inventory control. Instead of setting the trends, Zara follows them as it combines fashion reconnaissance, spotting trends everywhere from the street to movies to couture fashion shows, and information from its customers to keep its merchandise fresh. In addition, it follows ‘glocal strategy,’ to think globally but act locally dealing with cultural awareness to adapt worldwide-distributed clothes to local customers’ traditions. It also influences clients through their open pleasant architecture.

Among Zara’s key success factors, our analysis of its marketing strategy shows that its professionals apply both ‘economic intelligence’ and ‘emotional intelligence’ that we can merge in the neologism we have just coined ‘ecomotional intelligence.’ It helps guess and communicate the right customer’s needs, along with new fashion trends of competitors and attractiveness. The idea to propose this new concept began to germinate when we have observed that many companies tend increasingly to combine almost necessarily the two techniques in their marketing strategy and business models, to maximize customers’ satisfaction and minimize lost sales, seeking to last their competitive advantage. By the way, designers pay close watch on trends and buying behaviors through:

- Markets research on competitors’ stores and fashion shows through economic intelligence;
- Investigations on places with customers’ presence as university campuses and discos;
Other feedbacks coming from internal stores through sales report and qualitative comments of customers immediately transmitted to designers.

4.3. Customer’s loyalty versus unconventional booming low-budget advertising

The Company publishes two catalogs twice a year, along with of course attractive and familiar online stores. Zara managers reserve small budget for advertisement but it is effective through its aggressive presence near competitors in big places and famous streets of grand cities. The short shelf life for trendy clothes creates psychological attraction on customers [16]. They usually visit Zara stores more than 12 times a year fearing of they would not find them anymore on the shelves, compared with its competitors by 5 to 7 times a year. Hence, the policy of customer loyalty of client portfolio is in full evolution as a heavy and satisfied customer you keep is ten times less expensive than acquiring a new one. Furthermore, collaborators in Zara stores show interest to customers’ wants and preferences, and transmit them immediately to warehouses.

5. Conclusion and future research

Fast With its accelerated growth attaining more than $25 billion annual sales in 2018 [16], we have seen through the critical analysis how Zara that pioneered and developed fast-fashion art, insisted to seek innovation and continuous improvement in its operations and business model in order to maintain the uniqueness of its huge competitive advantage over time. Most of analysts sum up the secrets behind its success within the efforts and investments led in the human, structural and relational capitals, as illustrated in table 2.

| Human Capital | Structural Capital | Relational Capital |
|---------------|-------------------|-------------------|
| Development of analytical tools in partnership of cutting-edge universities scientists resulting in innovative demand forecasting and optimization models. | Vertical integration and just in time strategy throughout global supply chain, besides externalization and diversification. | Leading by ecomotional intelligence, customer loyalty and corporate social policy. |

We find out that Zara’s production system follows a pull system to control alignment of demand to customers’ expectations. Besides elaborated optimization models, vertically integrated supply chain is the keystone of its success as it contributes to total control of the production process and needed flexibility to be able to react quickly to the market trends, so that it is extremely difficult to benchmark them by competitors, called fast-fashion killers.

Finally, many scientists and fashion decision-makers remain interested in how Zara will extend its competitive advantage in a market increasingly immersed in digital revolution, and willingness for best trade-off between sustainability and design.

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