Take Home Exam
Supply Chain Management
INDITEX/ZARA Case Study

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Assumptions to the Case Study

Assumptions to the Supply Chain

- Supply Chain is only mapped for the Finished Product Sourcing Model. Faconneur-based Sourcing Model is not taken into account.
- There are no product returns in any stage of the Supply Chain.
- Shopping online is not included in the Supply Chain.
- Any involvement of a third-party delivery company is disregarded.
- Focus on the whole Inditex holding (not only Zara).
- Suppliers from Asia and Turkey ship orders by sea.

Multicriteria analysis assumptions

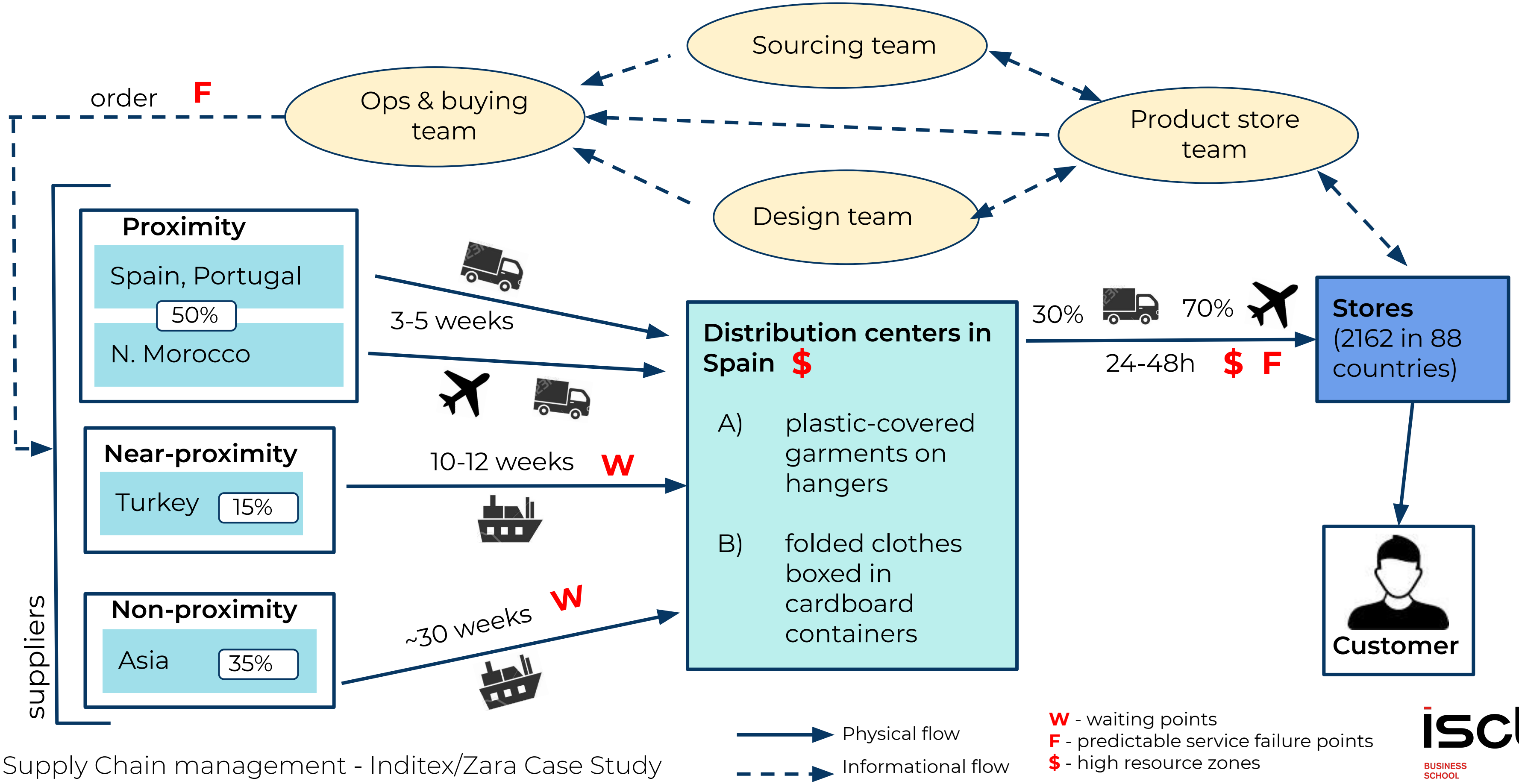
- For the multicriteria approach, I've chosen an Asian supplier and European supplier of Inditex/Zara
- Description of the typical Asian supplier: low-cost manufacturing located in China, long lead times around 30 weeks (Asian lead time was not mentioned in the case, I computed it from the given information of 14 weeks average, 3-5 weeks in 50% cases, 10-12 weeks in 15% cases, X weeks in 35% cases), average factory worker salary 150 EUR, inbound shipping by boat, large batches production
- Description of the typical European supplier: Spanish production factory owned by Zara, three-to-five weeks lead time, average factory worker salary 1 200 EUR, inbound shipping by truck, flexibility in terms of batches volume
- The scale used is from 1 to 10, where 1 is the worst option and 10 is the best.

Assumptions to the Case Study

Assumptions to the Value Chain

- The values are counted for the whole Inditex holding company (Zara, which accounts for 65% of Inditex sales + 7 other brand companies).
- The value chain is built using Inditex consolidated Income statement for year 2015.
- Net operating profit (EBIT) was taken for the Margin calculations. Financial results and results of companies accounted for using the equity method are not taken into account as they are not parts of sales. Calculated margin is not adjusted from income taxes.
- The cost of merchandise was fully added to the Procurement category as company mainly outsource production from the third parties.
- As the operating expenses are the second largest cost category containing different stages of the value chain, a breakdown was made as follows: 80% to operations including Inbound and Outbound logistics, 5% to Technology development, 5% to Services, 5% to Firm infastructure, 2,5% to Marketing & Sales, 2,5% to HR Management

Zara Supply Chain - Finished Product Sourcing Model



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Zara Supply Chain (W-F-$ points)

Waiting points

There are especially high waiting times for delivery from Asian suppliers. This can be explained by make-to-order logic, minimum order quantity necessary which reduces order frequency and shipment by sea.

Service failure

Different volumes with different collection items chosen by store managers increase complexity of delivery to stores, and therefore, there is increased likelihood of mistakes. For the same complexity reasons, increased probability of mistakes during the processes of ordering from suppliers.

High resource zones

High costly distribution centers due to location in Spain and expensive labour force in Europe.
High costly deliveries to stores due to the frequency (twice a week) and ways of delivery (30% by air, 70% by truck).

Multicriteria analysis - Asian VS European supplier 2

Criteria	Asian supplier		European supplier		Criteria weight
	Score	Reasoning	Score	Reasoning	
Cost of manufacturing	10	150 EUR per worker	1,25	1 200 EUR per worker	0,35
Lead time	1,33	around 30 weeks	10	3-5 weeks	0,4
Shipping costs per unit	10	shipping of large batches by boat	6	shipping of small batches by truck	0,1
Flexibility in terms of batches volume	5	mainly large batches, which increase inventory and risk of markdowns and stock overhang	10	both small and large batches possible	0,05
Quality	8	usually lower quality, Inditex can not control or change internal processes	10	in the owned factory, Inditex can control quality of goods and can have an influence on processes	0,1
Final score	6,08		6,54		

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Multicriteria analysis - conclusion

Asian supplier

- The main advantages are **low costs** of manufacturing and following shipping to the distribution center in Spain
- Big disadvantage is **long lead time**, which is contrary to the main Zara business model strategy (keeping selections fresh with a continuous stream of new merchandise)
- Higher risk of poor quality
- Good for the **basic items**
- Multicriteria analysis score: **6,08**

European supplier

- The main advantages are **proximity sourcing** and **quality controlling**
- **Lower order batches** enable collections to be fine-tuned and adjusted in season
- Main disadvantage are **high labour costs** in Europe
- Multicriteria analysis score: **6,54**

As the result of multicriteria analysis, European supplier was given a slightly higher score than Asian one. The main priority for Inditex is still lead time. However, due to the increasing competition in the mass-market fashion industry, it is no longer possible to keep all production in Europe. Thus, Asian suppliers can be used for production of basic items and those items with predictable demand.

Inditex Value Chain & key take-aways

Firm Infastructure — 6,7%
Inditex's 20 000-square-foot headquarters in northwestern Spain

HR Management — 0,9%
Product store team consisting of experienced store managers, large design and operation trams

Technology Development — 1,8%
Design center in Spain with designers producing 30 000 designs and 11 000 new items per year

Procurement — 42,1%
Outsourced third parties production from Asia (more than 40%) and Turkey (15%)

Inbound Logistics
-Proximity sourcing is one of Inditex's competitive advantages
-weighted lead time ~14 weeks

Operations
-World-class distribution centers in Spain
-Some production factories are owned by Inditex

Outbound Logistics
Shipping to stored twice a week by truck or air within 24 to 48 hours

28,3%

Marketing & Sales
-Adopting styles strategy
-Fewer fashion misses due to the small batches and short lead time

0,9%

Services
2 162 Zara stores worldwide

1,8%

Margin

17,6%

Total: 100,1%
Primary: 31%
Support: 51,5%

Value chain percentages

-High costs spent on procurement due to outsourcing the majority of production.
-High costs spent on operations due to distribution centres and warehouses location (Europe, Spain), using of small batches and shipping frequency twice a week. Also not the cheapest way of shipping (truck and air).
-Operating margin (EBIT/revenues) for the apparel category was estimated to be around 8,4% in the year 2015 (Readyratios.com). Therefore, it can be said that achieved number is well above average.

Cost breakdown structure

From the customer's point of view, the price of the dress (100%) consists of:
42,1% for the dress itself
28,3% for distribution and shipping
12,1% for design, administrative and other costs
17,6% margin

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Inditex Value Chain calculations

Income statement	Financial achievement (in mln. of EUR)	Distribution along the value chain
Net Sales	20 900,4	Equals the total
Cost of merchandise	(8 811,1)	8 811,1 / 20 900,4 = 42,1% Procurement
Operating expenses	(7 391,8)	7 391,8 / 20 900,4 = 35,4% ● 28,3% Operations including Inbound and Outbound logistics (80% of operating expenses) ● 1,8% Firm infastructure (5% of operating expenses) ● 1.8% Technology development (5% of operating expenses) ● 1,8% Services (5% of operating expenses) ● 0,9% HR Management (2,5% of operating expenses) ● 0,9% Marketing & Sales (2,5% of operating expenses)
Amortization and depreciation	(1 021,7)	1 021,7 / 20 900,4 = 4.9% Firm Infastructure
Net operating profit (EBIT)	3 677,4	3 677,4 / 20 900,4 = 17,6% Margin

Supply Chain Generic Strategies - Zara T-shirt

LOGISTICS

MANUFACTURING	Decentralized inventories	Centralized inventories and direct distribution
Make to inventory	The Full **Speculation** Strategy	The **Logistics** Postponement Strategy
Make to order	The **Manufacturing** Postponement Strategy	The Full **Postponement** Strategy

Assumption

Description of a typical Zara/Inditex T-shirt: a round neck, white classical t-shirt; always available in (not only) Zara shops in “basics”.

Strategy

Shops use **Full Speculation Strategy** for the basic items as white t-shirt. **Inventories are decentralized** (white t-shirt is available in almost every apparel retail). Demand for the basic t-shirt is constant and predictable, that is the reason for using **make-to-inventory** production logic. Any retailer trying to switch basic t-shirts to the logistics postponement or manufacturing postponement, will lose due to the extremely high competition and because clients are accustomed to get basic items easily.

Generic Strategies: Alternative approach

SUPPLY CHARACTERISTICS

Long lead times	**LEAN** Plan and Optimize	**HYBRID** De-couple through Postponement
Short lead times	**KANBAN** Continuous Replenishment	**AGILE** Quick Response
	Predictable	Unpredictable

DEMAND CHARACTERISTICS

Strategy

Alternatively, we can choose strategy based on the demand and supply characteristics. Basic t-shirt have **predictable demand** and they are usually immediately available, which means **short lead time.** So for these items, **Kanban** strategy (Continuous replenishment) is the best choice.

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Discussion

"Dependence on forecasts and make to stock products imply that the SC will definitely become more centralized and this movement is also aligned with an increasingly online business model"

Centralized Supply Chain is aligned with an increasingly online business model, but not necessarily have to be implied by make-to-stock production logic or dependence on forecasts. In Inditex/Zara case 60% of collection is already in stock at the start of season, but this stock is kept in all the shops (decentralized). Centralized Supply Chain increase accuracy of forecasting, but it doesn't mean that in decentralized system can not be good forecasts. In Zara business model, store managers' pay is linked to the forecasts accuracy, so they give very high importance to it. Zara sells only 15-20% of collection on reduced price (against 30-40% average), which means that forecasts are accurate despite of the decentralized structure.

Discussion

"As we increase the number of [retail] stores and the volume being handled in each facility the ROI [return on investment] will improve because of the increased throughput in the system" is a statement that cannot easily be combined with "the online operation nowadays requires central distribution from Customer Distribution Centers even to client's houses"

These two statements can not be easily combined. In the first one, there is a talk about increasing the numbers of stores (which is characteristic for decentralized Supply Chain), and in the second one there is a talk about requirement of centralized Supply Chain. The first statement is true as analysis have shown that 71% of the company's profit growth had resulted from sales growth and 75% of the sales growth had come from new-store square footage. Regarding the second statement, there are online business models also possible with decentralized Supply Chain, no strict requirement here.

"Putting the higher value products closer to the market, which reduces transportation time and the total distance travelled to support stores is completely aligned with a push from the online operation"

No, it is not. Putting products closer to market means decentralization of stock, which is not aligned with a push from the online operation. Implementation of digital approaches is easier on centralized base. But again, not impossible on decentralized Supply Chains.

Conclusions & Lessons learned

Conclusion

- Due to expansion to Asia had become a particular area of focus, it might be reasonable to open or outsource distribution center in this area.
- Store expansion will be the main source of performance improving and sales rise.
- The company should keep current business model and not to move more production to Asia, due to lead time is the main competitive advantage.
- It is recommended to the company to increase number of online markets. Zara already expanded to 88 countries, but only 27 out of this can offer shopping online as well. Due to the push to more digital approach, and especially now during pandemic, it is extremely important.
- Manufacturing automation and robotic solutions are recommended for distribution centers and owned European factories to cut costs in future and prepare for Industry 4.0.

Lessons learned

- Short lead time can prospect to the huge competitive advantage, and in many cases high costly distribution worth customer’s loyalty and doesn’t need to be minimalized, as in Zara case
- It is important to store-level managers have a voice in organization and can choose items to sale in the shop, as he/she is closest to the epicenter of the business - the customer.
- It is also important to train store managers in forecasting and other analyzing methods so they can give a high-quality feedback. Zara’s system of managers’ salaries dependent on forecast accuracy is a good way of motivation.
- Nowadays, it is almost impossible for mass-market fashion retailers to keep all the production in Europe. However, it is important to still have proximity sourcing suppliers for quickly replenishment of stocked-out goods.

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