DFP
Businesscase

Based on future FTA model
Dutch food processing company “DFP”

DFP is a company of Dutch origin that is engaged in all kinds of food preparation, in general ready-made meals, marmalades, jams, fruit yogurts and desserts. It sells products in the Netherlands and in the neighboring countries Belgium and Germany. However, the UK is by far the most important sales market. More than 65% of the total turnover is sold in the UK. The turnover in 2017 is approximately 1 billion euros. DFP faces a lot of competition. Supermarkets put DFP under a lot of pressure. Timely delivery of goods at the distribution centers of the various supermarkets is vitally important. The company has great difficulty in maintaining itself in this ruthless market.

Depending on the type of DFP product, they are either produced in the Netherlands (ready-made meals), the UK (marmalades and jams) or Germany (yogurts and desserts). The factories are contract manufacturers. All ingredients are purchased by the head office, although many, including exotic fruit, meat, sweet potatoes, etc., are sourced through third-country distributors. Sales are also centrally arranged by the head office. Most of the imported products originate from South America, although many are also imported from Israel and South Africa. DFP currently does not possess any customs clearance permits. It therefore has no knowledge of customs formalities.
DFP Case: product flow across countries

Current flow of goods for DFP

Legend
- Stocking point
- Factory (marmelade)
- Factory (ready-to-go meals)
- Factory (yoghurt)
- Flow impacted by Brexit

Wholesaler

DFP NL

DFP NL

DFP DE

DFP UK

UK customers

EU customers
Which issues will DFP face post-Brexit under a future FTA model (current red lines)?

Because the UK is by far the most important sales market, it is obvious that DFP must change its existing procedures in order to remain competitive. If it continues with its existing procedures, DFP will not only pay customs duties in the Netherlands, but also in the UK (third-country distributors of ingredients and for ready-made meals and yogurts produced in the Netherlands and Germany). Furthermore, as an exporter/importer of food preparations, it will be confronted with customs formalities. The goods will also have to comply with all veterinary and phytosanitary obligations.
Customs formalities
Customs formalities
Indirect Tax
For some DFP products, the new rules of origin between the UK and the EU may offer a solution for avoiding customs duties. However, this must be determined on a case-by-case basis, based on the bill of material of the end products. This will be a monumental task, certainly in the case of products containing, for example, chicken or meat and/or vegetables/ fruits, which are sourced from both inside and outside the EU.

If the rules of origin do not offer a solution, DFP would be well-advised to make use of the special inward processing procedure. This customs permit means that customs duties do not have to be paid on temporary imports into the EU. The large number of transactions may be a reason for DFP to employ simplified import procedures. DFP must acquaint itself with customs formalities. It must quickly take stock of all possible customs scenarios. One issue that needs to be considered is having its own distribution hub in the UK. The activities of the three manufacturing hubs will also need to be scrutinized. The customs clearance permit package (AEO, AV, GPA/AGS, TA/TG, Approved Exporter) must be applied for in good time.

The existing procurement will also have to be scrutinized. Is the purchasing flow still optimal in view of the changed circumstances? Would it not be better to purchase some raw materials on the world market rather than in the EU, since the majority are now sold outside the EU? Should the focus no longer be on new sales markets within the EU? Could the changed procedures for The UK be a reason to export more outside the EU? All in all, Brexit may mean a complete upheaval for DFP as far as its current business model is concerned.
DFP - customs dilemma’s

DFP will face customs formalities
Delays in the process will be unavoidable
Current Business model will lead to double duties.

Mitigation
1. Inward processing relief (IPR)
   Could be an option for all three production locations;
   Applications required in NL, Germany and UK;

2. Authorized Exporter (FTA)
   BOM drives preferential treatment;
   Substantial transformation required;

3. Authorized Economic Operator (AEO)
   To facilitate simplified procedures

Expertise
Import/Export process
Outsourced to agent(s);
In-house.

Legend
Stocking point
Factory
Flow impacted by Brexit
What will happen to DFP’s Supply Chain after Brexit?

Two extreme scenarios:

- **Scenario 1**: No change in product flow
- **Scenario 2**: Two separate flows for EU and UK

Brexit day January 1, 2021 will lead to chaos

How can DFP’s Supply Chain respond to Brexit?
The 2 supply chains

SCENARIO 1: All the movement of goods between EU countries and UK are impacted

SCENARIO 2: Create a separate supply chain for the UK including production
First scenario: there is no change in product flow

SCENARIO 1: All the movement of goods between EU countries and UK are impacted

THE EFFECT: Lead time and Supply Chain costs increase

Legend
- Red: Negative impact
- Gray: Neutral impact
- Green: Positive impact
### First scenario:

#### THE EFFECT:

<table>
<thead>
<tr>
<th>Logistics and shipping</th>
<th>Production</th>
<th>Inventory and warehousing</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in shipping time due to custom clearance and uncertainty</td>
<td>No change. However there can slight increase in business risk</td>
<td>No Change</td>
<td>No change</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME</th>
<th>COST</th>
<th>CUSTOMER SATISFACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME</td>
<td>COST</td>
<td>CUSTOMER SATISFACTION</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>No change</td>
<td>Cost increase due to:</td>
<td>Increase in shipping time reduces the shelf life of products for the final customer, potentially reducing revenues</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>No change</td>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>No Change</td>
<td>Higher average inventory increases cost (i.e. higher required capacity and higher working capital)</td>
<td>Greater risk of shelf life</td>
</tr>
<tr>
<td>No change</td>
<td>New capabilities and staff required to manage custom clearance</td>
<td>No change</td>
</tr>
</tbody>
</table>
Second scenario: create a separate flow for UK & EU

SCENARIO 2: Create a separate supply chain for the UK including production

- Wholesaler → DFP UK → DFP UK
- Wholesaler → DFP NL → DFP NL

THE EFFECT: Consistent investments required to create a supply chain that is closest to the market

<table>
<thead>
<tr>
<th>TIME</th>
<th>COST</th>
<th>CUSTOMER SATISFACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics and shipping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory &amp; warehousing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: 
- Red: Negative impact 
- Grey: Neutral impact 
- Green: Positive impact
## Second scenario:

### THE EFFECT:

<table>
<thead>
<tr>
<th>Logistics and shipping</th>
<th>Production</th>
<th>Inventory and warehousing</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIME</strong></td>
<td><strong>COST</strong></td>
<td><strong>CUSTOMER SATISFACTION</strong></td>
<td></td>
</tr>
<tr>
<td>▪ Decrease in delivery time because of dedicated production sites</td>
<td>▪ Increase in cost of logistics due to reduction of quantities</td>
<td>▪ Decrease in shipping time increases the <strong>shelf life of products</strong> for the final customer, increasing satisfaction</td>
<td></td>
</tr>
<tr>
<td>▪ No change</td>
<td>▪ Investment in production sites is required to produce all products locally</td>
<td>▪ Products can be customized to the needs of the market, increasing satisfaction and revenue</td>
<td></td>
</tr>
<tr>
<td>▪ Decreased inventory flexibility (e.g. UK inventory cannot be balanced with production from EU) increases time needed to replenish inventory</td>
<td>▪ Increase in unit cost due to reduced economies of scale</td>
<td>▪ Increased risk of shelf life</td>
<td></td>
</tr>
<tr>
<td>▪ No change</td>
<td>▪ Dedicated production to smaller markets makes demand forecast harder thereby increasing the risk of incurring in extra costs</td>
<td>▪ Also potentially better / faster communication</td>
<td></td>
</tr>
<tr>
<td>▪ No change</td>
<td>▪ Procurement from UK suppliers increases complexity of sourcing of raw material, requiring an initial investment in assessment of UK wholesalers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Decrease in cost of logistics due to reduction of quantities</td>
<td>▪ Investment in additional warehouse in UK due to increased local production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ No change</td>
<td>▪ Lower demand predictability required higher average inventory thereby increasing inventory costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ No change</td>
<td>▪ New capabilities and staff required to manage custom clearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Decrease in delivery time increases the <strong>shelf life of products</strong> for the final customer, increasing satisfaction</td>
<td>▪ Need to hire dedicated resources for sales, operations and procurement in UK, thereby increasing the costs and decentralizing the organization</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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## IT Systems and Processes

### Scenario 1
- **Growing Complexity and investments**
- **Redesign of Processes**
- **High Impact on master data**
- **High Internal Control requirements**

### Scenario 2
- **Leverage existing investments**
- **Map existing processes to local requirements**
- **Duplication of master data**
- **No impact**

### Notes
- IT Systems
- Processes
- Data
- Certifications
IT Impact scenario 1

IT Systems
Although in scenario 1 the supply chain remains the same, the processes within the supply chain will change substantially. Consequently also the IT-systems landscape will change. New systems will come into play. Next to IT-systems from customs authorities in UK and NL, DFP probably has to invest in a new custom & trade management system to support the high volume of custom-transaction in an effective and efficient manner. Next to that, also for process efficiency interfaces between the existing ERP-system and the new custom & trade system and with the custom authorities systems have to be established. This means a substantial investment in acquiring/building and implementation of systems and interfaces.

Processes
From a process point of view, DFP will become much more dependent (also in lead-time) from third parties like customs authorities and health inspection organization. This means additional process-steps will come into play that have never been thought of before and for which the current ERP system was never setup. High level of process-automation is required to deal with high volume of transactions and squeezing delivery times due to Brexit. This mean a process-redesign of current processes and in fact a re-implementation of these processes in the current ERP system and new acquired systems. This requires a substantial investment in resources and lead-time to get this accomplished.

Data
As mentioned in the Customs-dilemma’s, to comply with the Country of Origin Principle as part of the FTA requirements, correct management of the Bill of Materials is key and can be a nightmare. Next to that it should be known, that a reliable BoM is a key driver for reliable automated supplychain processes in an ERP system. The number of BoM’s will at least double, at least 2 for each product, one for UK (origin principle) and one for within EU. This is a substantial one-off effort, but also maintaining the BoM’s accurate over time will require substantial more management effort and might require a separate Product Information Management System (PIM)

Certifications
As also mentioned in the Customs-dilemma’s, to mitigate Brexit consequences like increasing leadtimes and double-duties DFP can apply for all kind of Custom simplification facilities. This however comes with a burden. Processes and IT-systems will be audited by authorities to get a certificate. This requires a solid Internal Control Framework for IT- and Business processes, which are by the way under redesign as mentioned in the process-paragraph. Certification can only start once new processes and systems have been placed in operation. Experience learns that thereafter lead-times of certifications easily can take 6-12 months.
IT Impact scenario 2

IT Systems
For scenario 2, kind of the opposite applies. Whereas the supply changes (2 separate supply-chains, 1 for UK and 1 for EU), the processes within the supply remain basically the same. As in the pre-Brexit situation, custom formalities and duties do not apply. For the IT systems this means, that no new investments in systems and interfaces between those systems are required. The existing investments in a central ERP-system can be leveraged. Where interfaces are required to new production systems (for e.g. ready-meals in UK), also here investments from solutions in the Netherlands can be leveraged.

Processes
Although processes in the two supply chains are basically the same, a local fit/gap analysis is required, to identify mainly local legal requirements, that might be different. For these gaps/non-fits the current setup of the system have to be amended, tested and accepted by the local business. Although this is an effort that should not be underestimated in leadtime and resource requirements, this is not comparable to the re-design and re-implementation effort that is required for scenario 1.

Data
Also in scenario 2 a duplication of masterdata, like Bill of Materials will apply. The driver for this is however from a different nature. In scenario 1 the Country of Origin is the driver. In scenario 2 the opportunity/necessity to adapt to local circumstances and demands are the main driver (customers might like other ingredients or flavors. Wholesalers in UK might not have the same supplies than the wholesalers for EU).

Certifications
Because customs&trade formalities do not apply in this scenario, certifications with Brexit as a driver do not apply in this scenario.
IT Systems and Processes

Scenario 1
- Growing Complexity and investments
- Redesign of Processes
- High Impact on master data
- High Internal Control requirements

Scenario 2
- Leverage existing investments
- Map existing processes to local requirements
- Duplication of master data
- No impact
IT Impact in conclusion

From the previous slide it has become obvious that purely from an IT-perspective scenario 2 is more preferable, because it requires less investments in time and money. Also from an IT-risk perspective it can be argued that scenario 2 contains less business (continuity)-risks, because processes and technology are proven, whereas in scenario 1 much more uncertainty is brought in (new systems. Interfaces and process-redesigns).

Although IT can be an enabling factor to help mitigating risks and issues that result from Brexit, it has never the ‘prime’. It always follows the business decision, and is therefore much more driven by supply-chain and strategic business development and markets decisions.
Impact on Finance & Accounting for two scenario’s

COSTS

<table>
<thead>
<tr>
<th>Accounting Treatment</th>
<th>SCENARIO I</th>
<th>SCENARIO II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Impact on Accounting & Finance for two scenario’s

### Considerations

<table>
<thead>
<tr>
<th>Accounting Treatment</th>
<th>Working Capital</th>
<th>Reporting</th>
<th>Financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional / changes in accounting treatments as a result of new customs (scenario I) and logistic requirements. This will result in general in changes in administrative processes, data model and related accounting systems.</td>
<td>Longer lead times and higher safety stock will result in a significant increase in Days Inventory Outstanding (DIO). DIO will increase more in scenario II as inventory should be stored in at least two locations.</td>
<td>DFP is reporting under IFRS. As a result the valuation of the assets (Plant, Property and Equipment) should be against fair value.</td>
<td>This case does not take into account any FX and / or interest rate movements. However, the Brexit will lead to uncertainty and uncertainty will lead to movements in both interest and currency rates.</td>
</tr>
<tr>
<td>For scenario II: less intercompany reconciliations (in foreign currencies) required which will lead to a less complex consolidation and also less complex Planning, Budgeting &amp; Forecasting process.</td>
<td>Additional administrative requirements for invoicing, aged stock, late deliveries etc. will give customers additional reasons for late payments. As a result this might lead – although limited - to an increase in Days Sales Outstanding (DSO).</td>
<td>Additional production and storage facilities (UK &amp; NL) will lead to increased spare capacity / assets not utilized in the other facilities</td>
<td>Might be possible to transfer part of the existing production facilities to other locations. Nevertheless, significant additional cash required to invest in new 3 new production facilities and additional warehouse facilities in the UK in scenario II</td>
</tr>
<tr>
<td>However, impact is temporary and limited.</td>
<td>More handling with supplier (two channels instead of one). This will reduce your bargaining power with your supplier and as a result the DPO will probably go down in scenario II (supplier demand earlier payment or payment in advance).</td>
<td>Additional production and storage facilities will lead to redundant UK / movements in personnel</td>
<td>Funding (including cost of capital) in scenario II might therefore be more difficult / become more expensive</td>
</tr>
</tbody>
</table>

### Costs

<table>
<thead>
<tr>
<th>SCENARIO I</th>
<th>SCENARIO II</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Cost Icon" /></td>
<td><img src="image2.png" alt="Cost Icon" /></td>
</tr>
<tr>
<td><img src="image3.png" alt="Cost Icon" /></td>
<td><img src="image4.png" alt="Cost Icon" /></td>
</tr>
<tr>
<td><img src="image5.png" alt="Cost Icon" /></td>
<td><img src="image6.png" alt="Cost Icon" /></td>
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<td><img src="image7.png" alt="Cost Icon" /></td>
<td><img src="image8.png" alt="Cost Icon" /></td>
</tr>
<tr>
<td><img src="image9.png" alt="Cost Icon" /></td>
<td><img src="image10.png" alt="Cost Icon" /></td>
</tr>
<tr>
<td><img src="image11.png" alt="Cost Icon" /></td>
<td><img src="image12.png" alt="Cost Icon" /></td>
</tr>
</tbody>
</table>
First scenario: there is no change in product flow

SCENARIO 1: All the movement of goods between EU countries and UK are impacted

THE EFFECT: Process time and personal costs increase

- **TIME**
- **COST**
- **EMPLOYEE SATISFACTION**

Legend:
- Red: Negative impact
- Orange: Neutral impact
- Green: Positive impact

- Tax and social security
- Immigration
- Compensation
- Housing
- Attracting Talent
- Regulations/labor law

Wholesaler → DFP NL → DFP UK → DFP NL → DFP DE → UK → EU
HR Impact scenario 1

Introduction
Starting point of the impact analysis is making an inventory of all employee’s policies and analyzing whether the company has commuters, business travelers and assignees moving physically in and out of the UK.

Although in scenario one the supply chain will not change, it is expected that Brexit has a significant impact on the time involved to manage the (global) workforce and the total employee costs for the company. When informing and involving the employee’s concerned, it is expected that the impact on the employee satisfaction will be neutral.

In detail
The impact on the international Tax position of the employees is minimal, however the impact in relation to employers and employees contributions with respect to Social Security and Health Insurance might be significant in case of mandatory coverage in multiple states.
From an Immigration perspective working abroad (in the UK and the European member states) might be subject to work- and residency permits requirements.
Compensation and Housing policies must be adjusted as the costs of living in the UK is in general more expensive.
To Attract and keep Talent within the company, personal development, international work experience and the well being of employees are very important. The company must adjust talent programs and ‘expat’ and ‘tax equalization’ policies, as the company will be less flexible to move talent within the organization and faces an increase of employees costs to make sure the impact on employee satisfaction will be neutral.
The company must adjust their employee and ‘expat’ policies to specific domestic Regulations and Labor law in relation to posted employees, commuters and business travelers.
Second scenario: create a separate flow for UK & EU

SCENARIO 2: Create a separate supply chain for the UK including production

THE EFFECT: Process time improves, costs increases and employee's satisfaction remains neutral
HR Impact scenario 2

Introduction
By setting up a separate supply chain with local employees in the UK, the time involved to manage the (global) workforce will significantly decrease compared to scenario one. When not only changing the supply chain, but also adjusting the employee and ‘expat’ policies, for instance by implementing ‘local’ plus policies for assignees, the company costs may not increase that much and the impact on the total employee satisfaction will be neutral.

In detail
The Tax position will not change and the risk of mandatory coverage in multiple states for Social Security and Health Insurance will be mitigated. Although Immigration requirements will continue to exist in this scenario, the time to manage the employee population will decrease eventually when having localized employees.

Also in this scenario Compensation and Housing policies must be adjusted as the costs of living in the UK is in general more expensive, the company must hire more local UK employees to run the business and results in increasing employee costs.

To Attract and keep Talent within the company, personal development, international work experience and the well being of employees are very important. Also in this scenario the company must adjust talent programs and ‘expat’ and ‘tax equalization’ policies, as the company will be less flexible to move talent within the organization and faces an increase of employee costs to make sure the impact on employee satisfaction will be neutral.

The company must adjust their specific UK employee policies to specific domestic Regulations and Labor law.

HR Impact in conclusion
From the aforementioned it has become obvious that from an HR-perspective scenario 2 is more preferable, because it requires less investments in time to manage the workforce. Although the costs for the business will increase, it is expected not that much compared to scenario one and the impact on employee satisfaction will be neutral. Overall it is noted that involved, satisfied flexible employees are of utmost importance for the business in both scenarios.
Wrap up
What is the optimal answer?

The decision needs to be targeted to the sector-specific business and customer needs (illustrative):

<table>
<thead>
<tr>
<th>Customer requirements</th>
<th>Cost</th>
<th>Quality (delivery time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Chain integration</td>
<td>Loosely coupled</td>
<td>Strongly coupled (JIT delivery)</td>
</tr>
<tr>
<td>Production</td>
<td>Standardized</td>
<td>Tailored to the market</td>
</tr>
<tr>
<td>Governance</td>
<td>Centralized</td>
<td>Decentralized</td>
</tr>
<tr>
<td>Regulation</td>
<td>No restrictions</td>
<td>Regulatory restrictions</td>
</tr>
</tbody>
</table>
What is the optimal answer?

It is depending in which market segment you operate:

• When you deliver short shelf life products, time is of essence so it could be that you need a more dedicated supply chain to keep your deliver reliability

• If you have a capital intensive industry you probably won’t build a new production site so you have to deal with the new playing field

• So for DFP you probably will create a dedicated supply chain for your ready to go meals and for you marmalade keep the current supply chain
Recap: other considerations and key takeaways

Other considerations

• Subsidies: analyse possibilities for subsidies in UK and EU
• Legal & insurance
• Potential exit taxes in the countries where an activity is moved
• Transport modes
• Currency risk
• Product rules
• Health & safety

Key takeaways

• Information gathering
• Involve key stakeholders
• Location feasibility assessment
• Identify scenarios and model costs
• Brexit strategy
• Facilitate implementation of strategic and tactical priorities
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