Analysis of shortcomings and ways to improve particular priority food supply chains

Business Process Analysis From Farm to Border

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A Generic Agro Product Supply Chain Structure

Source: adapted from Sirimanne 2011
What is a Supply Chain?

An international supply chain is an end-to-end Business Process during which goods move from seller to buyer.

- Reference model: UN/CEFACT Buy-Ship-Pay Model
Trade Movement – 3 Kinds of Flow

- **Seller (Exporter)**
  - Payment: Banks, Customs, Other Government Agencies, Cargo Insurance

- **Buyer (Importer)**
  - Physical Goods: Wholesalers, Consumers
  - Payment: Importers, Traders
  - Information/Documents: Other Government Agencies
What is a Business Process?

- **A Business Process** is a collection of related and structured activities or tasks that produce a specific service or product.

- Examples:
  - Movement process of dried apricot for example, from Malatya to Izmir port
  - Applying and Issuing Process for a Certificate of Origin
  - Customs Clearance Process at the Border Point
What is a Business Process Analysis?

- **Practical study**
- **An analysis and modelling of business processes for improvement (and, eventually, even automation)**

**Examples**
- Documenting existing practice in an administration/company
- Describing a “Standard Procedure”
- Identifying quantitative indicators
- Providing a basis to measure time/costs at different steps
- Providing a specification for automation of processes
Why conduct a Business Process Analysis on country level and in international trade?

- to understand how particular business processes work, and how they are interrelated
- to understand how practical, time-consuming and costly the trade transactions are both for authorities and users
What are benefits of Business Process Analysis?

- Understanding of the current situation
- Benchmarking with other countries
- Raising issues and priorities for improvement
- A stepping stone for the creation of future better processes, e.g. Process Simplification
From Paper to Paperless Trade: A Stepwise Approach

- Data Model and Digital Documents
  - Develop electronic documents
- Data Analysis and Simplification
  - Analyse information in the documents
- Document Simplification
  - Simplify paper documents
- Business Process Analysis and Simplification
  - Understand and simplify business processes
## Outputs of a BPA

<table>
<thead>
<tr>
<th>Step</th>
<th>Deliverable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1: Define project scope</strong></td>
<td>○ Use case diagram illustrating business domain, process areas, process participants, and key business processes</td>
</tr>
</tbody>
</table>
| **Step 2: Develop a detailed plan and secure resources** | ○ Detailed project plan including an estimation of human resources required, schedules, and software supported tools  
○ A list of potential interviewees and their contact information |
| **Step 3: Acquire background information** | ○ A folder of background information about the business processes under the investigation  
○ A list of guiding questions for the interview |
| **Step 4: Conduct interview and document captured data** | ○ A set of activity diagrams illustrating activities that come in a specific order and decision points, actors who perform those activities, defined inputs and outputs of each activity, criteria for entering and exiting the business process, relationships among actors, and information flow  
○ A set of business process descriptions that describes activity diagram and lists all related rules and regulations  
○ Activity diagram illustrating integrated processes in the business domain  
○ Time-Procedure chart displaying time required to complete each business process |
| **Step 5: Analyze the “as-is” processes and identify bottlenecks** | ○ A set of observations of the as-is business processes that have the potential for improvement |
| **Step 6: Develop and propose recommendations** | ○ Final report with recommendations which may include diagrams of “to-be” business processes |
Phase I: Scope Setting

Example:

- Regulatory and business requirements related to the operation and management of the seaport before, upon, and after the import of containerized cargo through all modes of transportations (road, rail, air, and sea)

- Import
  
  **Starting point:** when a carrier enters port
  
  **End point:** when cargo is picked up and transferred to an importer
Phase I: Scope Setting

Example: Importation by Sea

Draw a use case diagram to illustrate the business domain with the different process areas; the business processes and all partners and their links.

Example: Identify and map all partners involved in imports by sea:
- Vessel Agent
- Maritime Pilot’s Station
- Marine Department
- Port Operator
- Customs
- Other Government Agencies
- Importer or Representative
- Terminal Operator
- Haulage/Truck
- Bank
Step II: Data collection and process description

Objectives:
- Record the **process**
- Record **cost/time/risks**.
- **Validate** data
- Process description consists of **diagrams and text**

<table>
<thead>
<tr>
<th>Name of process area</th>
<th>2. Ship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of business process</td>
<td><strong>Arrange Rail Transport</strong></td>
</tr>
</tbody>
</table>
| Related laws, rules, and regulations | Regulation of railways operations (available in Russian only):  
  - A list of commercial stations by office road  
  - Order to approve the "Rules of cargo transportation,"  
  - Conventional bans  
  - The organisation of transportation by freight cars, repair of freight cars and inventory accounting of freight cars.  
  - Agreement on International Goods Transport by Rail (SMGS)  
  - Application for SMGS consignment notes  
  - Order № 554 of the Minister of Transport and Communications of Kazakhstan  
  - Request for transportation (the application form PG-12), Annex 1  
  - National Transport Code  
  - Agreement on the order of operation, repair, accounting and settlement for the use of freight cars inventory of the park, leased (temporary use), and use on international routes |
| Process participants | Carrier - National Railway Company (Kazakh Railways or Russian Railways)  
  - Rail car operating company  
  - Exporter |
| Input and criteria to enter/begin the business process | The Importer and the Exporter have already agreed about delivery of purchased products to a certain destination  
  - The Exporter contacts a carrier to reserve rail cars to the designated destinations and pre-schedules a dispatch from the  
  - The carrier reserves rail cars to the designated destinations and pre-schedules a dispatch from the \[...\]
Phase II: Data Collection and Process Documentation

Example: Prepare to Enter a Seaport Process

For each process, draw an activity diagram that describes activities and associated documentary requirements.
Step III: Bottlenecks and improvements

Objectives:

- **Identification:** What are the bottlenecks?
- **Actions:** How to improve them and what to improve?
- **Priority:** Where to start?

**Low hanging fruit:** biggest improvement with lowest cost (short-medium-long term)
Phase III-1: Process Analysis

Example: Prepare to Enter a Seaport Process (Existing Process)

Problems:
- Duplicated Information
- High Cost and Time for sending and receiving documents
- Data Inconsistency
**Phase III-2: Recommendation Development**

*Example: Time – Procedure Chart of Importation by Sea*

9 Main processes:
1. Prepare documents for import
2. Prepare to enter a seaport (Vessel)
3. Enter a seaport (Vessel)
4. Report cargo manifest
5. Unload cargo
6. Clear goods through customs
7. Arrange the transport for the pick-up of goods
8. Handle cargo at the terminal
9. Pay for goods
## Summary of a study: Usage Time for Import

<table>
<thead>
<tr>
<th>Transport Mode</th>
<th>As-Is Usage Time (day)</th>
<th>To-Be Usage Time (day)</th>
<th>Expected Reduced Time (day)</th>
<th>Expected Reduced Time (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import by Ship</td>
<td>20</td>
<td>12</td>
<td>8</td>
<td>40.00</td>
</tr>
<tr>
<td>Import by Airplane</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>20.00</td>
</tr>
<tr>
<td>Import by Truck</td>
<td>10</td>
<td>7</td>
<td>3</td>
<td>30.00</td>
</tr>
<tr>
<td>Import by Train</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>18.18</td>
</tr>
</tbody>
</table>
Overall BPA Project Management

1. Inception Phase
   - Thinking about the direction (to do or not do)
   - Preparation
   - TOR development (scoping the objectives)
   - Overall Plan

2. Project (Execution) Phase
   - Detailed Plan
   - Data Collection
   - Capture/Document the process in details
   - Provide recommendations
   - Submit the final reports

3. Post-Project Phase
   - Push the recommendations to implementation

Timeline

Today Date
Official Project Kickoff Date
Project end Date
## Recommendations – Export

<table>
<thead>
<tr>
<th>Country</th>
<th>Processes</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td><strong>Export of Maize/Cassava</strong></td>
<td><strong>Cambodia – Export</strong>&lt;br&gt;Apply for Phytosanitary Certificate&lt;br&gt;Apply for Certificate of Origin (COO)&lt;br&gt;All container goes through rigorous security check and scanning at the Port of entry.&lt;br&gt;Issuance of Certificate of origin (COO) can be processed after or simultaneously with the phytosanitary and fumigation certification process.</td>
</tr>
<tr>
<td>Lao PDR</td>
<td><strong>Export of Maize</strong></td>
<td>The process of application and issuance of COO should be initiated simultaneously with the application for Phytosanitary and/or fumigation certification.</td>
</tr>
<tr>
<td></td>
<td>Submission of documents in processes.</td>
<td>Automation of overall export system is very essential. It will reduce the time taken to travel from one place to another for submission of documents.</td>
</tr>
<tr>
<td>Bangladesh</td>
<td><strong>Export of Jute Bags</strong></td>
<td>Submission of Export Registration Certificate (ERC) should be removed. Submission of Certificate of Origin (COO) should be dropped One of them should be dropped as both serves the same purpose (showing country of origin)</td>
</tr>
<tr>
<td></td>
<td>Obtaining SAPTA certificate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obtaining Phytosanitary certificate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obtaining both COO and SAPTA certificates</td>
<td></td>
</tr>
</tbody>
</table>
In a BPA:

- An export transaction is seen as **an integrated process**, rather than a series of fragmented activities.
- The emphasis is on the **overall improvement of the end-to-end value chain**.
Thank you

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The UNNEXT Business Process Analysis Guide, training materials and studies are available online at:
http://www.unescap.org/unnexx/tools/business_process.asp

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