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**Hamp Crafts Process and DFD Improvement**

After reviewing the DFD diagram for the Hamp Crafts brick-and-mortar operation the following items have been identified:

**Sources/Sink**

* Customer
* Carrier
* Shipper
* Supplier

**Processes**

1. Receive the Customer Order
2. Check the Customer Out
3. Fulfill the Customer’s Order
4. Choose Supplier

**Data Flows**

* Shipping plan moves data from Check Out to the Carrier
* Delivery plan moves data from the Order Fulfillment to the S Supplier selection
* Contract negotiations happens between the Supplier Selection and the Supplier
* Shipment schedule data flows between the supplier and the Order Fulfilment process but the direction was not clear; i.e., is this a one-way communication from the Supplier back to Hamp Crafts and what do they do with the data during the Fulfilment Process
* There is an interaction between the Shipper and Supplier but it is unclear if and how Hamp Crafts participates
* There is an interaction, Carrier Planning, between the Carrier and the Shipper Supplier but it is unclear if and how Hamp Crafts participates

Upon execution of a customer ordering Hamp Craft’s process (#1) of *Receiving the Customer Order* is initiated. This process ends when the process (#2) of *Checking the Customer Out* begins. Once the *Checking the Customer Out* process ends *Fulfilling the Customer Order* (#3) begins. The process of *Choose Supplier* (#4) is initiate once the delivery plan data flow moves data from the *Fulfill* (#3) process.

As mentioned, priorly, there are still some areas of unclarity. There appears to be some sort of information exchange between the Supplier to the Fulfillment Process, but if the Supplier is initiating this data exchange or receiving some sort of update is unclear.

There are also some data exchanges between the Carrier and Shipper and the Supplier and Shipper; however, because these interactions are outside the Hamps Crafts organizational control the processes may be unimportant. This may be an area of potential improvement and will be covered in a later section.

In reference to adding a digital process the following changes and additions are suggested:

**Additional Processes Needed**

* Logon-On and Authentication
* Process Payment
* Check Inventory Levels
* Deposit Payment
* Update Shipping Status

**New Data Stores**

* Saved Customer Payment Accounts
* Customer Account Credentials

**New Data Sources/Sinks**

* Hamps Crafts Bank Account

**New Data Flows**

* Logon credentials
* Invalid order
* Payment Information
* Payment for Deposit
* Deposit Details
* Tracking Information

The *Log-on and Authentication* process would refer to the *Customer Account Credentials* data store to allow a user access to the store or block their access.

The *Process Payment* would be a new automated process to allow a user to pay electronically and could draw from the *Saved Customer Payment Accounts* data store. To facilitate a low Days Sales Outstanding (DSO) the movement of customer payments to the Hamps Crafts bank account should be automated; which would be carried out by the *Deposit Payment* process, *Payment for Deposit* and *Deposit Details* flows, terminating at the *Hamps Crafts Bank Account* sink.

To further facilitate good customer experience in the new eCommerce site adding an automated process to *Check Inventory Levels* and provide feedback to the customer of stock levels is suggested. This process should also be linked with the *Choose Supplier* process so that the Delivery Cycle Time (DCT) is minimized.

This idea of good customer experience is furthered by adding the *Update Shipping Status* process that will deliver a shipment’s tracking information to the customer.

This eCommerce site could be constructed in a semi-automated or manual method. In a manual method the eCommerce site would be a layer on top of the current processes and act as a proxy to the Hamps Crafts employees. In short, the eCommerce site would collect electronic data and deliver that data to begin the fully manual process already established. Each interaction with the customer would be manual, e.g., supplier choices would still be manually selected, delivering tracking information would be manually emailed, charging credit cards for payments and depositing funds into the Hamps Crafts business accounts would be done by an employee, etc. This should work for some amount of time but would not scalable without adding headcount to the organization.

Conversely, some amount of automation would allow the eCommerce site to be more scalable as there would not be a touch point within each process.

It is recommended that Hamps Crafts decide how much automation they are comfortable and move towards this goal. Some level of automation would limit DSO, DCT, and hopefully bring higher profit margins by limiting costly human interactions.

**Additional Recommendations**

Even in the brick-and-mortar operation adding the *Update Shipping Status* process should be considered. This would allow Hamps Crafts to be aware of shipping status which would facilitate better customer satisfaction but also allow Hamps Crafts to evaluate a shipping partner’s performance.