**Hamp Crafts**

* **Interpret the provided data flow diagram. What does it show? What does the current purchase and supply process entail?**

The current data flow diagram shows the process flow of the customer ordering from Hamp’s crafts, which is a brick-and-mortar storefront. The process model begins with the customer issuing an order to the store followed by checking out. When the check out process is completed a shipping plan is sent to the carrier where a carrier planning data flow is provided to the shipper for details. During the check out process, the order is considered fulfilled with the delivery plan data flow beginning the choose supplier process. At the same time, the shipper is also provided the necessary information from the order fulfillment by the storefront. After the supplier is chosen a contract negotiation data flow begins with an available supplier. That supplier receives a shipment schedule using the order fulfillment information and sends the order to the shipper for shipment to the customer.

* **What are the data sources involved in the current process?**

The data sources included in the current process are the Customer, who provides information about the item that they purchased, the amount, and the quantity. The Carrier is also a data source as it receives a data flow of the shipping plan from the Check Out process. The carrier is responsible for receiving the necessary information for customer fulfillment like the customer’s address if the item is being shipped. The Carrier also provides information to the shipper or the company responsible for shipping the product. The next data source is the Supplier which forms negotiations with the company or Shipper for fulfilling the product, especially through an online storefront. The Supplier ensures that the necessary inventory demand is properly met and on hand for the fulfillment to take place. The Supplier also receives the necessary information from the order fulfillment status in case the order is unable to be fulfilled which would result in a backlog of inventory and leading to dissatisfaction from the customer. The Supplier also acts as a data source by relaying the given information to the Shipper, so the Shipper has the proper information to ship the product. The Shipper receives data from both data sources, the Carrier, and the Supplier, to satisfy the order fulfillment.

* **What additional processes are necessary to integrate an online storefront?**

To be able to integrate an online storefront into the current process model, several aspects need to be included like an online ordering process. The online ordering process would include a webpage that displays all the current products with the ability to select the product-by type and the ability to check out with secure payment process with order confirmation as well. An online payment process would need to be secure so that customers can feel safe when paying for different products using multiple methods of payment. The ability for orders to be confirmed back to the customer, typically by an email confirmation message. This way the customer has all the necessary information pertaining to their order and can receive updates on their package for shipment time, delays, or any other pertinent information. Another feature of an online storefront is customer support, the store will need to provide online support either through a real-time representative or some A.I. function that can provide basic support tasks. For ensuring that your website is responsive, well designed, and properly maintained the website will need to undergo consistent maintenance so a back-end and front-end developer will need to be involved so the website doesn’t crash and lead to customer dissatisfaction and the potential loss of revenue.

* **What additional data sources would the system need to access the products and inventory?**

An online catalog is the most popular data source for an online E-commerce site, which would be beneficial for implementing an online store front from the standard brick-and-mortar. The online catalog would contain a repository of the different products and information regarding prices and availability that the Hamp Craft’s online store could then pull real-time information from.

* **What additional databases, if any, are needed to support the online storefront?**

An online sales database would help support the online storefront by providing real-time sales data, like the number of customers’ orders, payment details, and current order statuses that customers can access. A relational database management system would be preferred for this method of storing and retrieving sales data and important customer information. Another database that could be added is a customer support database that tracks the different incoming information of customers, like reviews, emails, inquiries, or complaints so that the online store and can maintain proper connection with its customers for support. Increasing overall customer satisfaction and leading to increased revenue over time. The DBMS would be good for storing content related to the item information as well as storing information related to what parts of the countries are seeing an increase sale over other parts so that analytics could be implemented to focus on states that may be suffering sales or figuring out why other parts of the country are more successful than others. Databases are excellent technology when it comes to running an online storefront or business as they keep track of all the important information able to access whenever needed.

* **Would you recommend creating a separate new system for the online storefront or incorporating elements of the online storefront into the current process model? Explain your reasoning.**

By incorporating an online storefront into the current process model, you preserve a lot of the original business model since the current model relies on a process that is important for relaying information to and from the supplier and carrier. For Hamp Craft to implement an online and brick-and-mortar business model they can benefit from using a centralized system that manages both aspects. They would especially benefit from implementing the different aspects like the online catalog, online ordering process, and online sales database that actively tracks all the necessary information to keep the business running smoothly for both the owners and customers. While also effectively keeping track of each aspect of the online business it helps in reducing redundancy related to tracking inventory, order processing, and payment handling, leading to an effective streamlined approach of business management. Adding the online storefront into the current business model also means that the current employees won’t be responsible for building their brick-and-mortar process from the ground up again, only responsible for understanding and appropriating the online web page. However, this may come with a learning curve as adding online functionality to a brick-and-mortar store means employees need to be familiar with technology. An online storefront is superior regarding streamlining the business model as the supplier and carrier can both receive and provide real-time updates instead of relying on manual entry. This will greatly increase the speed at which items are sold and shipped, leading to a rapid increase in revenue and distribution. Implementing the online storefront into the current process model is far more effective than trying to build a new process model.