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## **CS 255 Module Three Assignment – Hamp Crafts**

In my assignment, I will analyze Hamp Crafts' current purchase and supply process and propose ways to improve it by using an online storefront. As of right now, the company operates only as a brick-and-mortar store. However, the company plans to expand into an online business in the future, which will require new processes, databases, and data sources. I'll go through the current system, point out what would need to change, and explain how I'd integrate the online storefront with what they already have.

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

When I look at the data flow diagram, I see the steps Hamp Crafts currently uses for their in-store process. It all begins with the customer placing an order on the website. This is the first step in the process. Following the receipt of an order, the customer proceeds to the checkout process to complete the purchase. It is after the order is placed that the store makes sure the product is in stock and ready to be shipped, which means that the order is fulfilled after it is placed. When it comes to planning shipment schedules and needing more inventory, the supplier is involved when the need arises. Carriers and shippers also play a role in making sure the order gets delivered.

Right now, this process works mainly through manual checks and a local database. Employees check inventory themselves and update the system with order and shipping information. If there's a shortage or a delay, communication is manual; someone has to reach out and let others know.

### **2. What are the data sources involved in the current process?**

From what I can see, the data sources in Hamp Crafts' current system come from several places. Customers are the first source since they provide the order details and payment at checkout. In addition to suppliers, it is also important to consider them because they will provide the products and they will be responsible for restocking once they run out. There is also a huge role played by shippers and carriers, since they handle the delivery and shipment of orders once they are ready to be shipped. Finally, the local database is a key source since it stores things like inventory levels, order information, and tracking updates that employees rely on to keep the process moving smoothly.

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

If Hamp Crafts wants to move online, I think there are a few important processes that would need to be added. A first step in the process is to create a way for customers to be able to browse products directly on the website. To make payments, customers need a secure online checkout system they can use any method they choose. As soon as an order has been placed, the system should automatically send a confirmation email to the customer so that they are aware their order has been received. Additionally, inventory should also be updated in real-time so that all items advertised online are actually in stock at the time of purchase. In conclusion, Hamp Crafts will need a backend system that manages customer accounts, updates product listings, provides customer service, and a way for employees to manage customer accounts. With the addition of these extra processes, we are able to make sure the storefront is both functional and safe for all users. On top of that, since payments are involved, Hamp Crafts would need to follow payment security standards like PCI DSS (Federal Trade Commission [FTC], 2023).

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

It will be necessary to incorporate some new data sources into the online system in order for it to function properly. To provide customers with all the information they need about products, all the details, descriptions, and images would have to be maintained. Additionally, you will also require a customer database with information on the profiles of your customers, order histories, and contact information, as well as a customer account database. Since payments are a big part of online sales, Hamp Crafts would need a secure payment gateway (National Institute of Standards and Technology [NIST], 2023).

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

In addition to the current local database, I think Hamp Crafts should add a couple of new ones. An online order database would be really helpful for tracking online sales separately, but it should still link back to the main inventory system so the numbers stay accurate. Also, I would recommend that you create a customer support database in which you can track things such as support tickets and customer messages. Adding these databases would make sure the online side of the business doesn't get mixed up with the in-store side, while still keeping everything connected and accurate.

### **6. 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.**

I would recommend incorporating the online storefront into the current process model instead of building a completely separate system. When everything is connected, inventory stays accurate in the store and online. Hamp Crafts could oversell items if the systems are not linked, which could cause confusion. By connecting online orders to the existing system (from checkout to fulfillment to shipping), they will have one smooth process for both in-person and online sales. It helps prevent e-commerce mistakes by preventing duplication (U.S. Small Business Administration [SBA], 2022).

## References

Federal Trade Commission. (2023). *Protecting personal information: A guide for business*.  
<https://www.ftc.gov/business-guidance>

National Institute of Standards and Technology. (2023). *Framework for improving critical infrastructure cybersecurity*. U.S. Department of Commerce. <https://www.nist.gov/cyberframework>

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