IT6506 - e-Business Technologies

8. e Supply Chain Management

Level III - Semester 6

Overview

This chapter will focus on e-Supply Chain Management. The first section will cover theories related to Supply Chain Management, SCM applications, their features, and functionalities. The subsequent section will present a case study conducted on eBay, one of the most popular ecommerce websites. The following sections will provide a detailed discussion on how to list and sell products on eBay and Daraz.

Intended Learning Outcomes

At the end of this lesson, you will be able to;

- Discuss theories related to Supply Chain Management
- Discuss SCM applications and their features and functionalities
- Discuss how to list and sell a product on eBay and Daraz

List of sub topics

8.1 SCM applications and their features and functionalities

8.2 Case Study - Ebay

8.3 Ebay

8.4 Daraz

8.1 SCM applications and their features and functionalities

What is Supply Chain Management?

- Supply Chain Management is the process of planning, organizing, implementing, and controlling the operations of the supply chain as efficiently as possible.
- Supply Chain Management involves the coordination of all supply activities of an organization from its suppliers and delivery of products to its customers.
- Supply Chain Management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management activities.

8.1 SCM applications and their features and functionalities …contd.

As shown in the following figure, upstream supply chain activities which are equivalent to buy-side e-commerce, and downstream supply chain activities which correspond to sell-side e-commerce can be identified for most of the organizations.
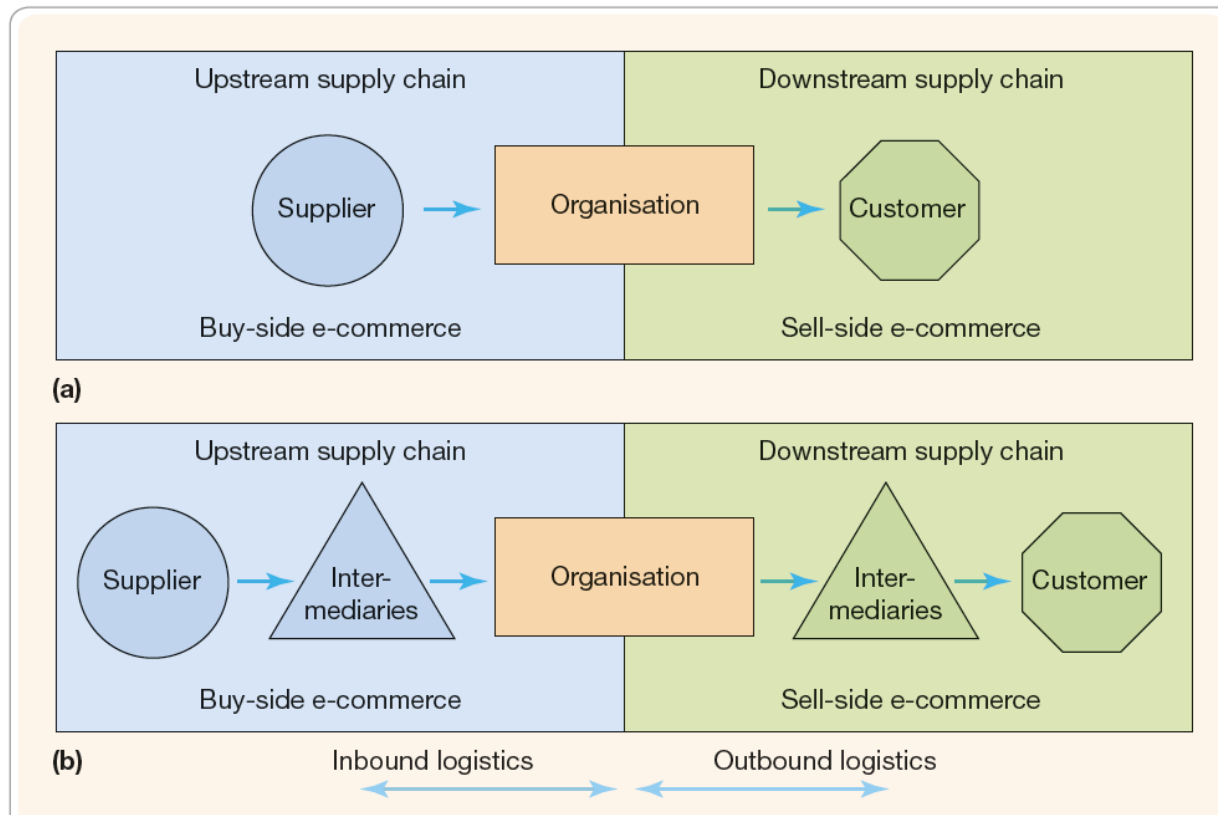
8.1 SCM applications and their features and functionalities …contd.

- Supply Chain Management includes not only the supplier and buyer but also the intermediaries such as the supplier's suppliers and the customer's customers.
- Technology is vital to Supply Chain Management since managing relationships with customers, suppliers, and intermediaries is based on the flow of information and the transactions between these parties.
- An effective supply chain will look to optimize its;
  - Information Flow
  - Product Flow
  - Cash Flow

Historic evolution of SCM

- The historic evolution of SCM can be categorized into 6 eras; namely
    - Creation Era
    - Integration Era
    - Globalization Era
    - Specialization Era Phase I
    - Specialization Era Phase II
    - Supply Chain Management 2.0

Lavassani, K., Movahedi, B. and Kumar, V., 2008, May. Transition to B2B e-Marketplace enabled supply chain: Readiness assessment and success factors. In CONF-IRM 2008 Proceedings (p. 59)

Creation Era

- The term "Supply Chain Management" was first coined by Keith Oliver in 1982.
- But the concept of Supply Chain Management has been there since realty 20th century when assembly lines were invented.
- Characteristics of Supply Chain Management in this era include
  - need for large-scale changes
  - re-engineering
  - downsizing due to cost reduction programs
  - widespread attention to Japanese management practices

Integration Era

- Evolved with the development of Electronic Data Interchange (EDI) systems in the 1960s
- Further developed through the 1990s by the introduction of Enterprise Resource Planning (ERP) systems.
- This era continued to develop well into the 21st century with the expansion of Internet-based collaborative systems.
- Characteristics of Supply Chain Management in this era include
  - increasing value-added
  - reducing costs through integration
- Supply chains that existed in this era can be categorized into 3 stages
  - Stage 1 - systems such as production, storage, distribution, and material control are not linked and are independent of each other
  - Stage 2 - systems mentioned above are integrated into an ERP system
  - Stage 3 - supply chain achieved vertical integration with upstream suppliers and downstream customers

Globalization Era

- Supply chains extended beyond national boundaries and into other continents.
- Characteristics of Supply Chain Management in this era include
  - globalization of Supply Chain Management in organizations with the goal of increasing their competitive advantage, adding value, and reducing costs through global sourcing.

Specialization Era Phase I

- Industries began to focus on 'core competencies'
- Companies sold off non-core operations, outsourcing these functions to other companies.
- Some changes that happened in this era included
  - Original Equipment Manufacturers (OEMs) became brand owners
  - Contract manufacturers had to manage bills of material with different part-numbering schemes from multiple OEMs
  - Popularising of vendor-managed inventory
- This created several individual supply chains connecting specific producers, suppliers, and customers.
- They worked together to design, manufacture, distribute, market, sell, and service a product.

Specialization Era Phase II

- Supply chain specialization began in the 1980s with transportation brokerages, warehouse management, and non-asset-based carriers
- It has matured into supply planning, collaboration, execution, and performance management
- Market forces demand rapid changes that affect supply chain infrastructure.
- Specialization allows companies to focus on core competencies and assemble networks of best-in-class partners thereby increasing overall performance and efficiency.
- Outsourcing technology hosting for supply-chain solutions began in the late 1990s
- This has progressed from the Application Service Provider model to the on-demand model and currently to the Software-as-a-Service model

Supply Chain Management 2.0

- The term "SCM 2.0" has been introduced to describe the changes occurring within supply chains and the development of processes, methodologies, and tools to manage them in this new era, which is based on the foundations of globalization and specialization.
- Currently, there is a growing popularity of supply-chain-collaboration platforms that connect multiple buyers and suppliers with financial institutions, allowing them to conduct automated supply-chain finance transactions.
- Web 2.0 is a trend on the World Wide Web that aims to promote creativity, information sharing, and collaboration among users. It is centered around the idea of providing a navigable path through the vast amount of information available on the web to find what one is looking for. The primary characteristic of Web 2.0 is to help users easily access and navigate the web in a usable and intuitive manner.

Supply Chain Management 2.0 …contd.

- SCM 2.0 is an extension of the Web 2.0 concept in supply chain management. It aims to provide a navigable pathway to achieve results quickly by combining various processes, methodologies, tools, and delivery options. The goal is to guide companies through the increased complexity and speed of the supply chain, which is affected by global competition, rapid price fluctuations, surging oil prices, short product life cycles, expanded specialization, near- and far-shoring, off-shoring, and talent scarcity.
- SCM 2.0 uses established solutions to quickly achieve results while being adaptable to future changes. This is done through specialized networks composed of top supply chain experts who understand the key elements that deliver desired outcomes. The solutions are offered in various options such as business process outsourcing, managed services, software as a service (SaaS), or traditional software deployment models.

Evolution of SCM in Organizations

Level 1

- The focus is on improving internal processes, such as reducing costs in sourcing and logistics. These efforts typically remain within a specific business unit.

Level 2

- Begins to dismantle internal silos and prioritize corporate integration. Different departments within the company collaborate to synchronize procurement, processing, and shipping.

Level 3

- The perspective of businesses shifts to an external view, which involves a greater emphasis on the customer. A key metric that now measures the success of the supply chain is customer satisfaction.

Evolution of SCM in Organizations …contd.

Level 4

- The stage involves involving trading partners and suppliers in discussions about how to reach customers. The partners go beyond the buying and selling agreement, initiating collaboration and information sharing to reach a shared customer goal.

Level 5

- This represents a step towards fully automated connections between businesses, where partners can exchange information electronically, resulting in reduced production cycle times. Real-time inventory visibility helps to reduce forecasting errors.

Developments in Supply Chain Management

- To understand the role of e-commerce in supply chain management, it is important to look at the historical context of management practices and how information systems have been utilized to support them. Some of the stages are,
  - 1960s/70s: Physical Distribution Management (PDM)
  - 1970s/80s: Logistics management (Materials Requirement Planning (MRP) and Just-In-Time – JIT)
  - 1980s/90s: Supply Chain Management and Efficient Consumer Response (ECR)
  - 1990s/2000s: Technological Interface Management (TIM)

1960s/70s: Physical Distribution Management (PDM)

- PDM treated stock management, warehousing, order processing, and delivery as related activities
- Information systems were developed to manage these processes but were often paper-based and not integrated across functions
- Some leading companies started using EDI (Electronic Data Interchange) for document automation
- EDI was used on a point-to-point basis for electronic purchase orders, shipping notes, and invoices
- PDM only focused on the management of finished goods, not materials and processes impacting the distribution process
- PDM was replaced by logistics management, which saw manufacturing, storage, and transport as integral parts of the total distribution process

1970s/80s: Logistics management (Materials Requirement Planning (MRP) and Just-In-Time – JIT)

- The Just-In-Time (JIT) philosophy aims to improve the efficiency and flexibility of the raw materials acquisition, production, and distribution process.
- JIT involves seeking minimum order quantities and stock levels, introducing flexible manufacturing processes and systems, and interfacing directly with the customer.
- Materials requirement planning systems help to maintain resources at optimal levels.
- The design for manufacture technique simplifies the number of components required for manufacturing.
- Lean production and lean supply aim to eliminate waste and minimize inventory and work in progress.

1980s/90s: Supply Chain Management and Efficient Consumer Response (ECR)

- Effective Supply Chain Management requires closer integration between suppliers, customers, and intermediaries.
- Some instances involved one organization in the channel taking over functions that were traditionally the domain of the intermediary.
- The primary goals of supply chain management are
  - to maximize efficiency and effectiveness for all players and
  - to maximize the opportunity for customer purchase by ensuring adequate stock levels at all stages of the process
- Global sourcing of supplies from preferred suppliers has grown rapidly among multinational organizations, and the internet enables smaller players to source globally and improve competitiveness.

1980s/90s: Supply Chain Management and Efficient Consumer Response (ECR) …contd.

- Integrated information systems like the SAP ERP system help manage the entire supply chain, automate new order requests, and introduce faster and more responsive ordering, manufacturing, and distribution systems.
- Technology has diminished the need for warehouses to be located near the markets they serve.

1990s/2000s: Technological Interface Management (TIM)

- Hamill and Gregory (1997) suggest that the focus in the supply chain will shift towards the collection, collation, interpretation, and dissemination of vast amounts of information.
- Enterprise Resource Planning (ERP) systems are updated to support direct data interfaces with suppliers and customers, including EDI and XML.
- ERP systems can also interface with B2B intermediary sites or exchanges such as Elemica
- SAP has created mySAP to help customers manage and personalize their interactions with these exchanges.
- XML is increasingly used as the technical means to achieve technological interface management.
- Hagel and Rayport (1997) suggest that the critical resource possessed by new intermediaries will be information rather than inventory.

1990s/2000s: Technological Interface Management (TIM) …contd.

- Customer information capture can serve customers rather than vendors in the future.
- The opportunity grows for intermediaries to act as customer agents and not supplier agents as customers become more aware of the value of information and technology enables them to protect private information.

Push and Pull supply chain models

- Push and pull are two fundamental models of Supply Chain Management that differ in the way products are ordered, produced, and delivered.

Push Supply Chain Model

- This model is based on forecasting future demand and producing products to fulfill future demand. The products are pushed through the supply chain towards the customer.
- The aim of this model is to optimize the production process for cost and efficiency.
- Typical characteristics of this model are
  - Manufacturer-led new product development
  - Poor data integration through limited use of technology
  - Long cycle and response times
  - High inventory levels
- Information systems are used for independent data management by supply chain members. Limited use of EDI.

Push and Pull supply chain models ...contd.

Pull Supply Chain Model

- This model is based on customers' demand. Products are produced in response to customer orders, and the flow of goods is "pulled" toward the customer through the supply chain.
- The aim of this model is to enhance product and service quality
- Typical characteristics of this model are
  - Market research-driven
  - The technology used to achieve research and data integration
  - Short cycle and response times
  - Low inventory levels.
- Information systems are used for Integrated internal systems and information sharing between supply chain members. Extensive use of EDI and e-commerce, often through B2B exchanges and intermediaries.

Push and Pull supply chain models …contd.
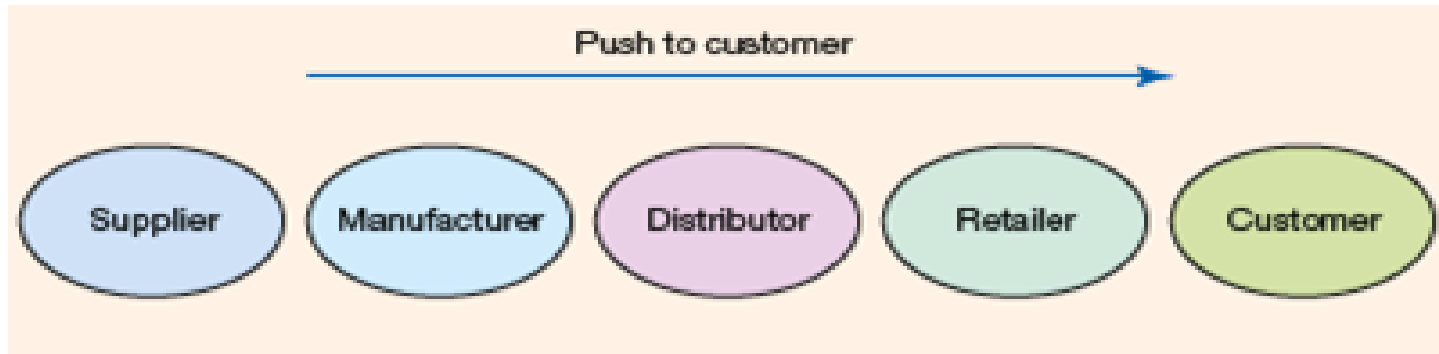
Push Supply Chain Model
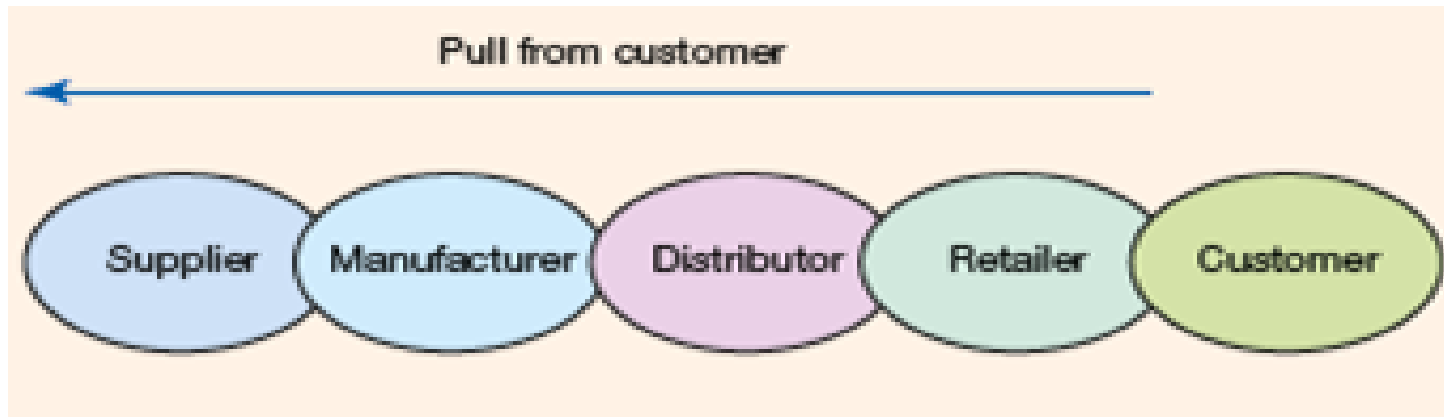
Pull Supply Chain Model

Examples of SCM Software

- SAP Supply Chain Management
- Infor Supply Chain Management
- Blue Yonder
- NetSuite SCM
- Shippabo
- Magaya Supply Chain
- Logiwa WMS

Features and functionalities of SCM

The main functionalities of SCM software can be listed as below

- Purchasing
  - Purchasing is the process of buying materials needed to manufacture products. Suppliers should be able to deliver these materials when required. Therefore the manufacturer and the supplier must communicate and coordinate to ensure timely delivery of materials.
- Operations
  - Operations include the day-to-day activities of the company. To purchase the materials, the company needs to know how much to order. This is done by forecasting the demand for the production. Accurate forecasting must align with inventory management and production schedules to ensure that the company is operationally positioned to manufacture the right amount of product to meet the needs of consumers.

https://openstax.org/details/books/principles-marketing

Features and functionalities of SCM …contd.

- Logistics
  - This is the function that involves the coordination of activities in the supply chain. Warehousing, inventory management, and transportation are some examples. All the participants in the supply chain must communicate effectively to ensure that products reach consumers in a timely and efficient way in the precise form that the consumer expects.
- Resource Management
  - This involves planning, organizing, and controlling resources such as labor, raw materials, and technology. These resources are required throughout the manufacturing process from raw materials to final product. Effective Supply Chain Management requires the right allocation of these resources to the right supply chain activities to optimize the entire system.

Features and functionalities of SCM …contd.

- Information Workflow
    - This describes how information moves between members of the supply chain. Ineffective information flow and poor communication can cause disruptions, delays ,and mistakes. Employing a systematic approach to sharing information across the supply chain ensures that the right companies have the right data to make the right decisions at the right time.

8.2 Case Study - Ebay

eBay is one of the world's largest and most popular online marketplaces, connecting millions of buyers and sellers globally. Founded in 1995, eBay has revolutionized the way people buy and sell goods, offering a platform for individuals and businesses of all sizes to sell new or used items. With over 185 million active buyers and more than one billion listings at any given time, eBay offers a diverse range of products across various categories, including electronics, fashion, home and garden, and automotive, to name a few.
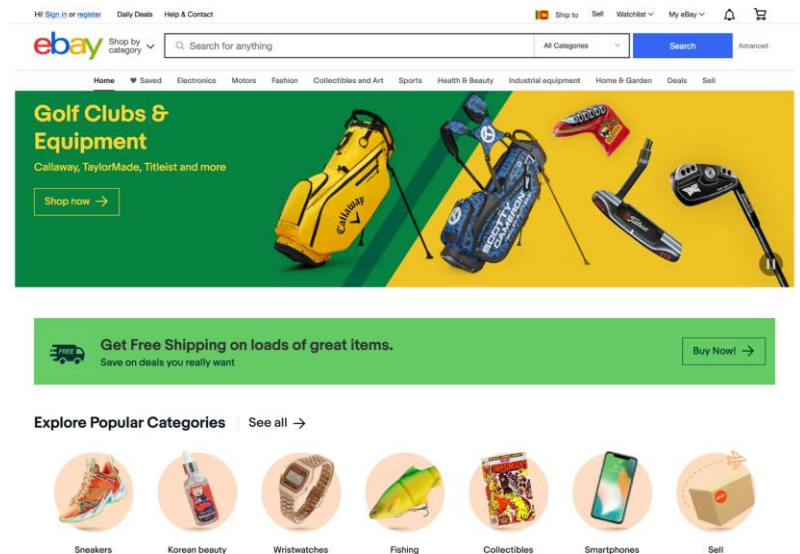
8.2 Case Study - Ebay …contd.

The value proposition of ebay

- For Buyers
    - Trust
    - Value
    - Selection
    - Convenience
- For Sellers
    - Access to broad global markets
    - Efficient marketing and distribution
    - Opportunity to increase sales

8.2 Case Study - Ebay …contd.

Detailed Seller Ratings

- A feature available on eBay where the users can rate the seller on 4 criteria
  - item as described
  - communication
  - delivery time
  - postage and packaging charges
- This tries to increase the conversion rate by increasing the positive shopping experience. For example;
  - by including more accurate descriptions with better pictures
  - avoiding excessive shipping charges.

8.2 Case Study - Ebay …contd.

Risk Factors of eBay

- The main risk factor for eBay is Fraud.
- To counter this eBay has developed 'Trust and Safety Programs' which are particularly important to reassure customers since online services are prone to fraud.
- eBay feedback forum and top seller status are examples of this.

8.3 Ebay

<u>Activity</u>

How to create a listing on eBay?

The following slides contain a guide on how to create a listing on eBay.

8.3 Ebay …contd.

Creating an eBay account

First, you need to go to www.ebay.com and click on register. Then you can enter the required information and click on create account button.

8.3 Ebay …contd.

Creating a listing on eBay

Once you logged in you can click on sell button at the top

8.3 Ebay …contd.

Then you can enter what you are selling and eBay will give you category recommendations on it. You can select a recommended category or select a different category from all the categories.

Please note that the options may vary with the category you have selected.
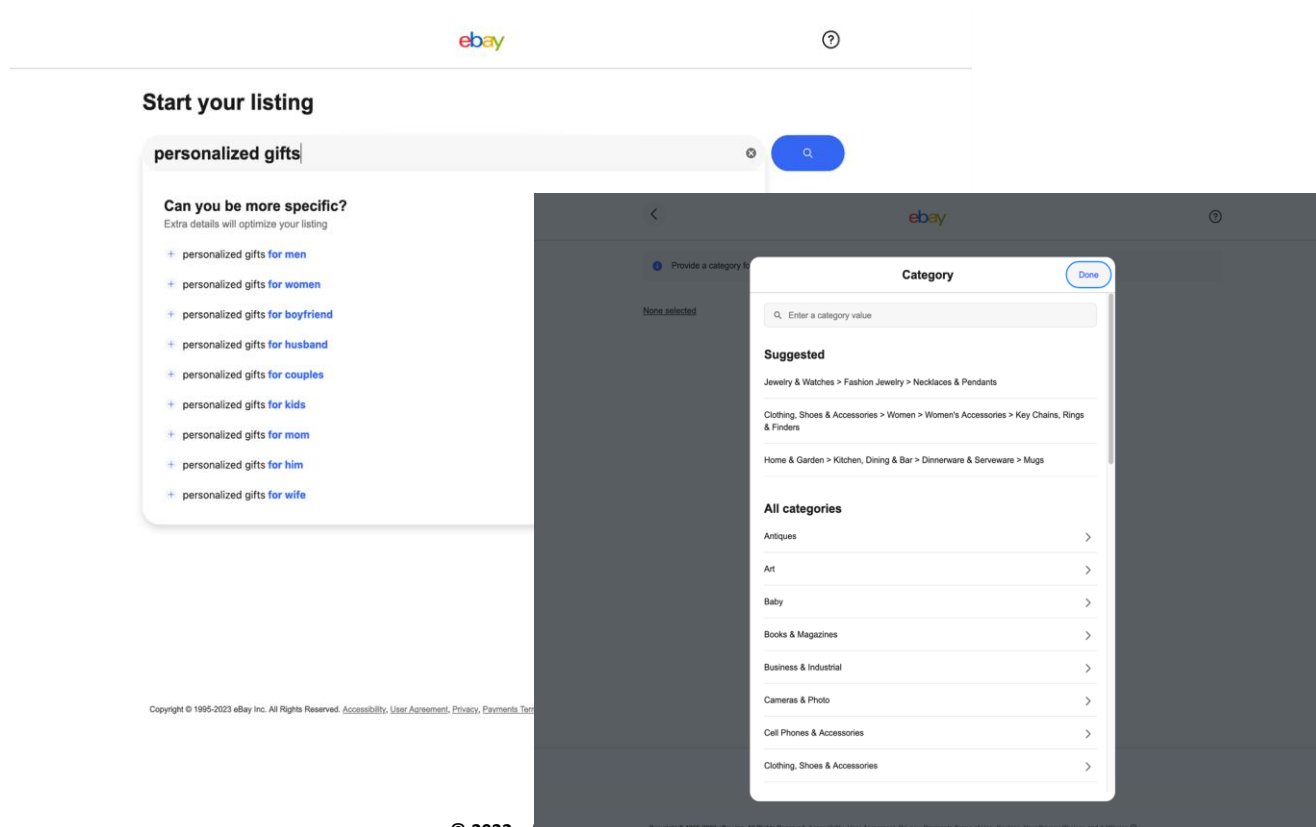
8.3 Ebay …contd.

After that eBay will provide a list of similar items, where you can select a match. If you don't want to select a match, you can "Continue without match"
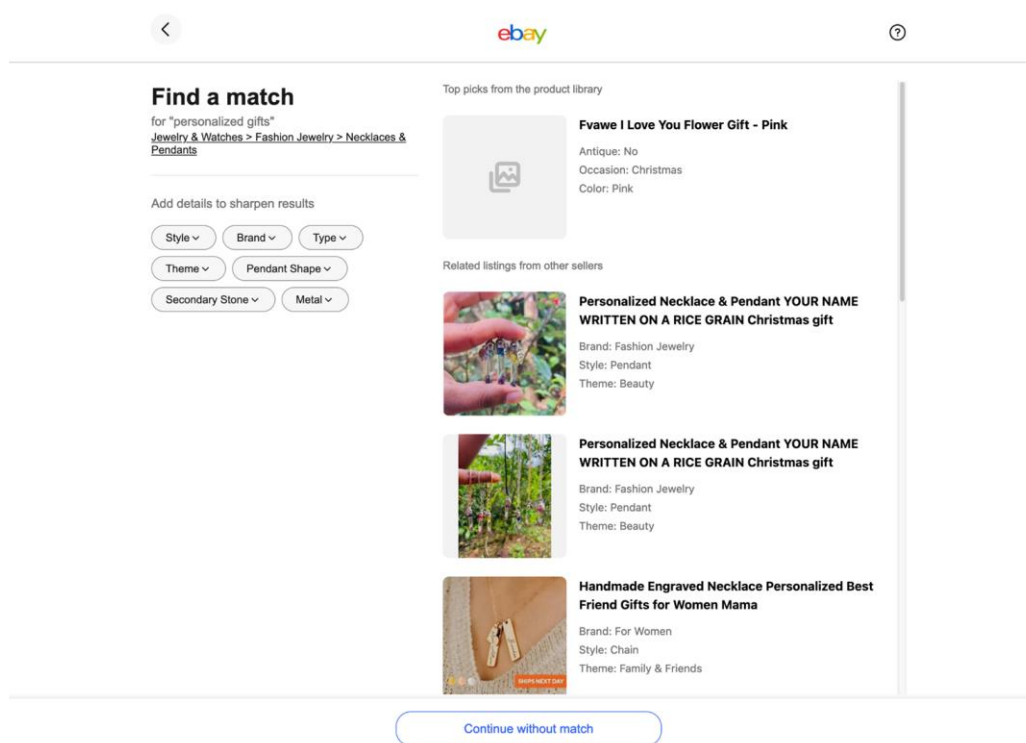
8.3 Ebay …contd.

Then you have to provide details about the product

8.3 Ebay …contd.

Some of the information you need to add is

- Photos / Video of the item
- Title
- Item specific information
  - Style
  - Brand
  - Type
  - Theme
  - Color
  - Material
- Item condition
- Description
- Selling format
- Price
- Shipping details
- Payment method

8.3 Ebay …contd.

8.3 Ebay …contd.

eBay   ? ⋯
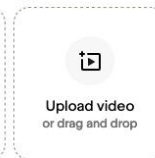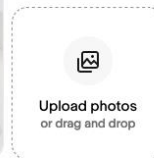
ITEM SPECIFICS

Required
Buyers need these details to find your item.

Style	Chain (+1) ⌄
Brand	Unbranded ⌄
Type	Necklace ⌄

Additional (optional)
Buyers also search for these details.

Theme ~ 453.4K searches	Letters, Numbers & Words ⌄
Pendant Shape ~ 358.6K searches	Rectangle ⌄
Secondary Stone ~ 268.2K searches	No Stone ⌄
Color ~ 198.2K searches	Gold ⌄
Metal ~ 193.8K searches	Yellow Gold Plated ⌄
Metal Purity ~ 29.8K searches	Enter your own
Main Stone ~ 187.7K searches	No Stone ⌄
Material ~ 183.7K searches	Metal ⌄

Show more ⌄

VARIATIONS   ✎ Edit

Save time and money by listing multiple variations of your item in one multi-quantity, fixed price listing.

CONDITION

Item condition
New without tags

Condition description ⓘ

8.3 Ebay …contd.

DESCRIPTION

B ☰ Custom template ⌄   <u>Show all options</u>

Looking for a thoughtful gift to surprise your loved one? Look no further than this beautiful pendant necklace!

Featuring a stunning four-sided pendant on a delicate chain, this necklace is the perfect way to show your affection. And the best part? You can customize the text on the pendant, making it a truly personal and unique gift.

Crafted from high-quality materials, this necklace is built to last and will look great with any outfit. Whether you're looking for a special birthday present, an anniversary gift, or just want to show your appreciation, this necklace is sure to make your loved one feel loved and cherished.

So why wait? Order now and give the gift of personalized style and love!

PRICING   ⇅ See pricing options

Format
| Buy It Now ⌄ |

Price
| $ 120.00 |

Quantity
| 1 |

Sold listings in the last 90 days ⓘ

Median sold price $9.00
Free shipping   25%

<u>See similar listings</u>

Allow offers   🔵
Buyers interested in your item can make you offers -- you can accept, counter or decline.

Minimum offer (optional)   Auto-accept (optional)
| $ 80.00 | | $ |

Add volume pricing   ⚪
Offer a discount when buyers purchase more than one item at a time.

💡 Buyers are more likely to purchase more of the same item if you add a Volume Pricing discount.

Schedule your listing   ⚪
Your listing goes live immediately, unless you select a time and date you want it to start.

45

8.3 Ebay …contd.

SHIPPING

Shipping method

Standard shipping: Small to medium items ⌄

Package weight (optional)

| lbs. | 3 | oz. |

Package dimensions (optional)

| in. | x | in. | x | in. |

Domestic Shipping

Cost type

Flat rate: Same cost regardless of buyer location ⌄

Domestic services

ePacket delivery from China
7 - 12 business days
Buyer pays

$ 50.00

⋮

＋
Add services

Offer free shipping

Rate table (optional)

None ⌄   ⋮

International shipping

Add shipping services

Cost type

Flat rate: Same cost regardless of buyer locati... ⌄

International services

Economy International Shipping
13 - 23 business days
Buyer pays

$ 50.00

＋
Add services

Ships worldwide ›

Rate table (optional)

None ⌄   ⋮

8.3 Ebay …contd.

Preferences

Your settings ✏️

10 business days handling

Item location Zhejianvince, China

No returns accepted
Unless item is not as described

PROMOTED LISTINGS

Using eBay Ads to promote your listings can help increase the likelihood of a sale by helping your items be seen by millions of active buyers.

Promoted Listings Standard
Reach more buyers

Only pay when your item sells through a click on your ad.

📈 **25% more clicks**

when using Promoted Listings Standard, on average (data from Sept 2022 - Feb 2023).

Listing ad rate
10.9%
Suggested: 10.9%

Edit campaign: Default campaign

PREFERENCES ✏️ Edit

Payment

Payment   Payments managed by eBay

☑ Require immediate payment when buyer uses Buy It Now

CHARITY ✏️ Edit

List it for free.

A final value fee applies when your item sells.

By selecting List it, you agree to pay the above fees, accept the eBay User Agreement, Payments Terms of Use and Marketing Program Terms; acknowledge reading the User Privacy Notice and assume full responsibility for the item offered and the content of your listing.

List it

Save for later

Preview

8.3 Ebay …contd.

Once you add all the information and click on "List it", eBay will list your product for sale.
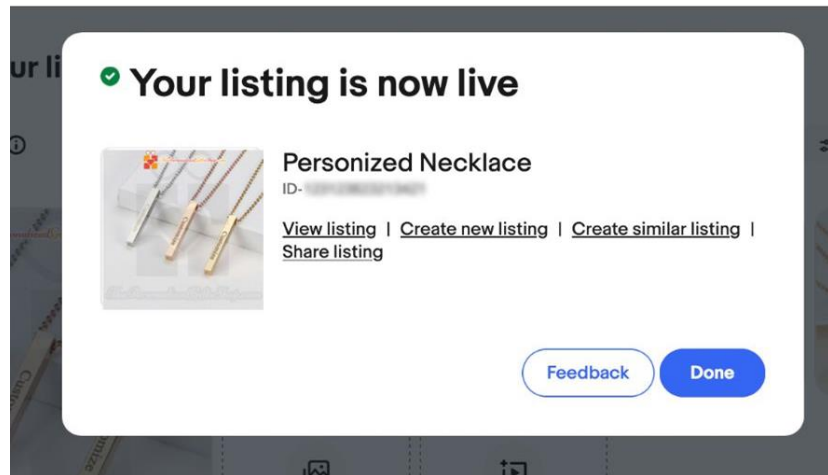
8.3 Ebay …contd.

You will be able to see the listed item under the active tab in the selling section.

8.4 Daraz

<u>Activity</u>

How to create a listing on Daraz?

The following slides contain a guide on how to create a listing on Daraz with brief descriptions of important features.

8.4 Daraz …contd.

Daraz is an eCommerce platform similar to eBay. To sell on Daraz you need to register at Daraz seller center.

8.4 Daraz …contd.

- Then you will be redirected to the seller dashboard where seller verification is done
- You need to
  - add your address
  - add photos of your ID
  - add photos of your bank passbook/bank statement etc. to verify bank details

8.4 Daraz …contd.

8.4 Daraz …contd.

8.4 Daraz …contd.

Once you add all the details and they were verified you'll be able to add products for selling.

8.4 Daraz ...contd.

8.4 Daraz …contd.

8.4 Daraz …contd.

8.4 Daraz …contd.

- Once you have listed the products you will be able to sell products. When you receive the order, you just have to package the product properly and hand it over to the Daraz delivery team.
- Payments will be directly added to the bank account provided when you are signing up.

8.4 Daraz …contd.

Daraz Seller Center

- It gives sellers instant access to key data to better manage their business on Daraz
- Some of the functionalities of the Daraz seller center are
  - Adding products
  - Overseeing orders
  - Handling stock
  - Joining campaigns
  - Using seller tools
  - Contacting the seller support team

Daraz Supply Chain Management

- Daraz supply chain management, which is also known as "Fulfillment by Daraz (FBD)" is a service where Daraz is responsible for processing, packing, and shipping your orders. Your items are stored in the Daraz warehouse and only a shipping fee is charged based on the number of orders shipped.
- The basic steps of the FBD process are as follows
    1. Seller sends products to Daraz fulfillment center
    2. Daraz stores the products
    3. Customer places order
    4. Daraz manages the products packaging and handling
    5. Daraz delivers the product to the customer
    6. Return management is handled by Daraz

https://education.daraz.lk/supportCenter/topic?topicId=169

Daraz Supply Chain Management

Benefits of FBD

1. Improves customer satisfaction by speeding up fulfilment time
2. Higher sales lead to higher conversion rate
3. Saves cost and time for sellers as no warehouse/additional employee cost
4. Easy to expand business through unlimited Order Volume Limit (OVL)