

Technology Innovation for Sustainable Development

Hello. In this video, we will continue our journey through the product value chain tool. As for the other segments of the chain, we will raise some strategically important topics, which are especially relevant to low and middle-income countries. We have already discussed issues related to developing the product, to manufacturing and marketing it.

Notes

Summary



0m 16s



- Distribution channels
- Shipping
- Packaging
- Third-party shipping
- Customs, taxes, regulations
- Insurances and incoterms

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Now we will look into the distribution of our product. You may have heard about the term "logistics". In industry, logistics includes two main parts. One is the upstream supply of components and raw materials to the manufacturer, and the second is the downstream transfer of finished goods from the manufacturer to the customer. In this video, we will look especially at the second part, which is called distribution. Distribution is the management of the flow of goods between the manufacturer and the point of consumptions or use by the customer. The product must be delivered according to contract specifications in a perfect state, in due time, and at a cost which has been optimized. In this chapter we will discuss the following topics: Distributions channels. Shipping. Packaging, which depends on which shipping mode has been selected. Third party logistics. Customs, taxes and regulations. And finally, insurances and Incoterms.

Notes

Summary



0m 40s



Partner channels

- +benefit from strengths
- +quickly expand reach
- loss of margin
- loss of customer “touch”

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The distribution of our technology can be realized in many different ways. We will spend quite some time in this video discussing practical aspects related to transporting the product, and yet there are some fundamental options we need to think about first. Think for example how you acquire consumer goods, such as a tool for gardening. Such a tool would most probably be manufactured somewhere and then shipped in large quantities to a wholesaler. The wholesaler would then sell a batch to a retail shop located near your home, where you will finally buy it. As we can see there are two intermediaries between the manufacturer and the final customer. For your technology as well, we will need to decide if you want to sell it directly to your customer or if you prefer to involve some reseller. There are many different options, which all have their own advantages and disadvantages. This is a complex subject. But I would like to give you a general sense of the trade-offs. In our first option we decide to find a partner who will purchase from our company and then resell to the final customer. This partner could be a local company, which already has a large customer base.

Notes

Summary



1m 47s



Partner channels

- +benefit from strengths
- +quickly expand reach
- loss of margin
- loss of customer “touch”

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We can just benefit from an existing access to the customers, which will expedite the deployment of our technology. In that way, we would reach large-scale much quicker. The downside is, that the reseller will, of course, take a margin from the sales revenues. A second problem is that there is a risk that we won't have any direct contact with the customer. This can prevent us from being aware of issues with customer satisfaction and from reacting before it is too late, if there is a problem. Also, we need to conduct a very detailed analysis of our partner's reputation and capabilities, since this will be critical for our success.

Notes

Summary



3m 09s



Partner channels

- +benefit from strengths
- +quickly expand reach
- loss of margin
- loss of customer “touch”

Owned channels

- +higher margins
- +customer “touch”
- costly to put in place
- complex to manage

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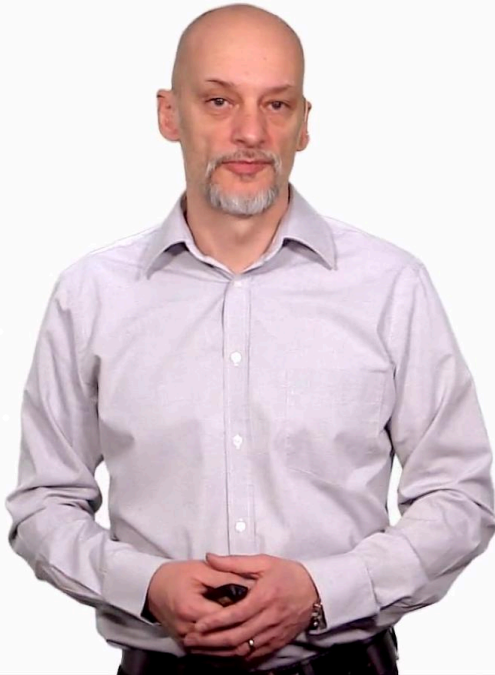
In the second option we decide to create our own distribution channel. This will generally mean that we can expect higher margins as we don't have to pay any intermediaries. We will also have the advantage of a close proximity between our company and the customers. One downside, which can be quite serious, is that creating our own channels is costly. Creating a subsidiary can also mean lots of lengthy legal and administrative hassles in certain countries. Remember our ease of doing business index. Also, it can be very complex to manage from abroad. In general, companies opt for a mix of owned and partnered channels, depending on the customer segments and product sold. Getting this distribution mix right is of crucial strategic importance. There is space for innovation here. For example, you may want to think about direct sales through the internet, or even mobile systems. Whichever way your customer acquires your product and unless your product is software, the next issue you will then have to solve is how your product will be physically shipped to the customer.

Notes

Summary



3m 55s



What product?

What origin?

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Fundamentally, the first question we need to ask ourselves is how we will transport our products from the site of manufacturing to the customer. This mainly depends on three key questions. The first is, what is the product that we want to ship? It is important to know the product well, obviously. Since this will determine the conditions for the shipping and handling. For example, if the product is a vaccine it requires a "cold chain". We need to know the components of the product, as some of them may have to comply with specific regulations. For example, if a lithium battery is involved, which can catch fire. Depending on the product and specific market this will also determine the lead time and the costs involved. These elements are, of course, very dependent on the transport mode. For example, if we decide to ship our product by air, which is very costly, it may take two or three days, as compared to weeks if we use the cheaper option of maritime transport. The second question is what is the point of origin of the product? Sometimes the product is completely manufactured in some specific location and shipped to the customer. But more often the cost can be optimized if the final product is assembled close to the customer.

Notes

Summary



5m 13s



What product?

What origin?

What destination?

Back-up plans!

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For example, when the product involves heavy or cumbersome components which can be locally manufactured. It is also important to consider that there may be instances where we need to keep some inventory of semi-finished or finished goods, as this can counterbalance fluctuations in demand or geopolitical instabilities. The third question is, who is the recipient? This question goes back to the sales strategy. It could be that we try to sell directly to individuals, or we might sell to intermediaries, who will then further deploy the product to the final customer. Here as well there are quite a few possibilities to optimize our shipping strategy for cost, quality and lead time. In general, shipping involves lots of aspects, which will ideally be handled by someone who has the experience in the specific country. It is always interesting to work close to an internationally recognized hub, where lots of goods are in transit as a start. This will tend to reduce unknowns in terms of paperwork and regulation. As we consider the global shipping strategy for our product, we also need to hedge for some specific risks, such as fluctuations in freight costs, geopolitical problems or variations in currency exchange rates, which can be a game-stopper. We need to think about alternatives and create back-plans right from the start.

Notes

Summary



6m 40s



Primary, secondary, tertiary Transport specifications

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As we want to ship our product we will obviously need to protect it during the transfers. The first role of packaging is to provide sufficient protection for the goods during transportation and handling. As we usually do not know the shipping mode in advance there are several layers of packaging involved. The primary packaging, which directly contains the products, will provide an individual general protection. Then, the separate primary unit packs will often be grouped together in secondary packages for transport. These secondary packages might then be placed on a pallet for easy handling prior to being put into a container, which would be our tertiary package. These second and third levels of packaging will strongly depend on the shipping mode. For fragile products we may need to define maximum acceptable temperature, humidity, vibration and shock loads. These transport specifications will help us design adequate packaging, which will be adapted to the corresponding optimized shipping mode. We need to take these parameters into account as early as when we are designing product, because the overall cost of the product may be largely influenced by transport costs.

Notes

Summary



8m 24s



Primary, secondary, tertiary
Transport specifications
Dangerous goods
Labeling and Traceability

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It may also happen that even a slight modification to the product and to its packaging can have a great influence on these costs. As said before, we also need to be aware that some products like chemicals, liquids, explosives, biohazardous goods, need to comply with special standards and regulations. They may require specific packaging and handling processes, which depend on the shipping mode and the country. The packaging will also need to carry mandatory information, including labeling, regulatory compliance markings such as de CE mark in Europe, as well as the traceability references. Traceability means that we need to be able to know exactly how, when and by whom the product was transported and finally received. This is mandatory for many goods such as medical devices, pharmaceuticals, food and so forth.

Notes

Summary



9m 57s



Third-party shipping
Single pack shipment
Freight forwarding
Carriers
Custom brokers

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International shipping is such a highly specialized activity that most suppliers and even large companies prefer to subcontract these activities to third-party experts. The third-party shipping companies are generally divided into two types. First, those specialized in single pack shipments. These well-known global companies, such as UPS, FedEx or DHL, are specialized in shipping single and low-weight boxes or envelopes to private consumers and businesses. They are efficient and provide simple, all-inclusive, quick and reliable point-to-point logistics. These companies also operate their own means of transportation like aircraft and trucks. However, their price per unit of weight and volume is high. Second, there are those specialized in freight forwarding. The freight forwarding companies are less known to the general public, as they work mainly in the business to business markets. Usually, freight forwarders do not move the goods themselves, but they work with carriers for the transportations and customs brokers for the customs clearances. They usually handle larger and heavier loads. For instance, they can handle a whole container from the factory to the customer.

Notes

Summary



11m 04s



Third-party shipping
Single pack shipment
Freight forwarding
Carriers
Custom brokers

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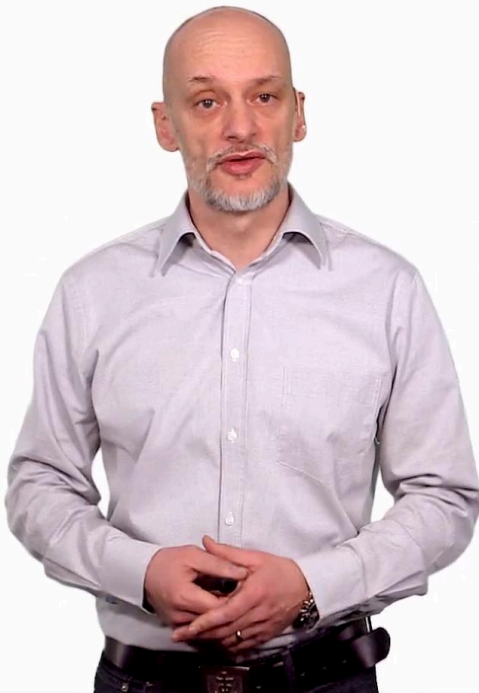
The price per unit of weight can be surprisingly low. They are one of the pillars of the global world economy, as they move goods around the world at a low cost. The differentiation between those two types of third-party companies tends to disappear nowadays as the single-pack shipping companies have entered the freight forwarding business and freight forwarders are also getting more diversified. Logistics companies in developing countries are not very different from their industrialized counterparts with regards to performance. However, they tend to be more fragmented in developing countries. Some companies may specialize in a particular region or transport mode, some others will specialize in customs clearance in a specific country, while others won't. In difficult regions of the world, a third-party shipping partner is absolutely crucial for a successful distribution, and this needs to be carefully chosen.

Notes

Summary



12m 20s



Customs duties

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Customs remain a major burden in many parts of the world, as they will increase costs and lead times. International tariff headings have been defined to differentiate all kinds of goods that can be traded. Specific products might be subject to very different customs duties depending on its tariff heading and country of origin. This is a tricky and complex topic and customs regulations are specific to each country and might be subject to exceptions, special cases and modifications. For example, some countries have decided not to tax import of medical goods in an effort to facilitating access. As we think about which country to work with, customs duties and regulations may have a great influence on our industrial strategy. For instance, many countries would not tax half-finished products as much as finished goods. Therefore, a good strategy might be to consider importing semi-finished goods, which will then be assembled in the country to avoid high taxes. In addition to taxation issues, customs are also responsible to check that the product complies with the local legislation and require certifications. This can become very troublesome as customs officers are not specialists in all local regulations for all types of products.

Notes

Summary



13m 20s



Customs duties

Value Added Tax (VAT)

Trade agreements

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So, we might get our product stuck at the customs because of a missing document, whether it is really mandatory to have it or not. Unfortunately, we might say, customs officers can have significant power, as they can decide to block goods of high value at customs. In some countries corrupt customs officers will use this opportunity to request bribes. On top of the customs duties, the customer will have to pay the value-added tax or VAT to the local tax authorities. Most of the countries in the world apply this consumption tax on products and services regardless of the product's origin. As you certainly know there are all sorts of economic agreements between countries and entire regions or continents, which define the rules that apply to the trade of goods. Amongst the most important ones, we will find free-trade areas, customs unions, common markets and economic unions, etcetera. These different forms of cooperation tend to define the level of the trade barriers that exist between concerned countries, Trade barriers can come in multiple forms. which can be based on tariffs, which are import or export taxes, or non-tariffs.

Notes

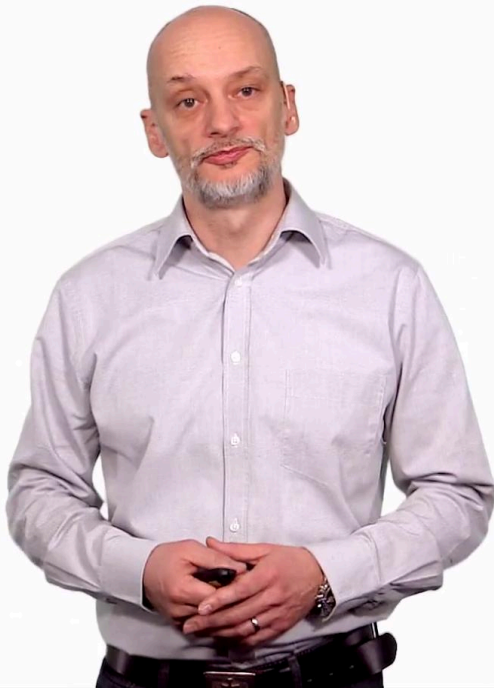
Summary



14m 50s



Distribution: Customs, Taxes, Regulations



Customs duties

Value Added Tax (VAT)

Trade agreements

CEMAC

SADC

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Non-tariff trade barriers can be, for example, import quotas, subsidies, customs delays, technical barriers or other systems preventing or impeding trade. In Central Africa, for example, there is the Economic and Monetary Community of Central Africa or CEMAC, which is the customs and monetary union. In Southern Africa there is the Southern African Development Community or SADC, which is a free-trade area. The trade of goods within a free-trade agreement region will be subject to limited, and sometimes, even zero customs duties.

Notes

Summary



16m 24s



It is certainly wise to carefully look into those issues, as we develop our technology and business model. This is yet another reason why we need to consider involving some expert, who is used to handling customs issues in the country we are considering. Let us now listen to a customs officer in Douala, Cameroon, who discusses these questions from his perspective. An extended delay to process goods at the customs can be due to several issues. Let's not forget that, at the port area level, several parties take part in the process. There is, indeed, the customs bureau, the consignee, the stevedore, the port authority... There are also other units, such as the health department, in the case of medical equipment. There are plenty of services involved. And sometimes, the service that matters is not well informed of the procedures. It could be preliminary procedures, for example, at the Ministry of Health, where it might be required to ask for an authorization, or it could be afterwards, dealing with port area parties, because sometimes procedures must be anticipated before shipping.

Notes

Summary

17m 08s





Insurances

Incoterms (examples):

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Sometimes, people are not aware of the procedures and if you'd like the procedures to last as little as possible, you should start the procedure before the ship arrival, with the assistance of a professional, and starting at the right time, issuing all necessary documents beforehand, and that these documents are very well prepared. If you go through all these steps, you'll ensure that customs procedures will be done within deadlines. It is easy to imagine that goods might suffer from damages or lost along the whole logistics process. Although it is not compulsory, it is highly recommended to look into ensuring the goods during distribution paths. Since casualties are relatively low in comparison to the huge amount of goods transported, the cost of insurance is relatively low as well. Most of the time it is much less than one percent of the goods value but the premium will depend on the level of risk estimated by the insurance company. International commercial terms or Incoterms are a series of predefined commercial terms that clearly define the obligations, costs and risks involved in the delivery of goods from the seller to the buyer.

Notes

Summary



18m 31s



Insurances

Incoterms (examples):

- EXW: Ex Works
- DDP: Delivery Duty Paid

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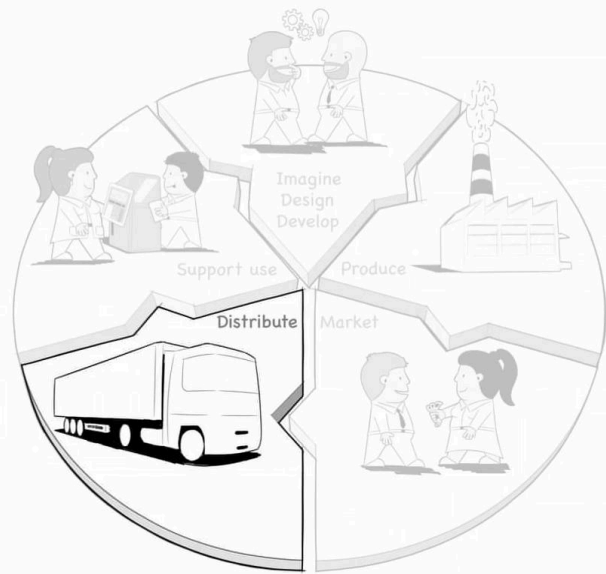
For instance, Ex Works, which is abbreviated EXW with the name of the place of delivery attached means that the seller will make the goods available in his own premises. It is up to the customer to pick them up there and to take care of the whole transportation process, including insurance, taxes, customs, etcetera. At the other end of the spectrum, we have so the called Delivery Duty Paid or DDP, which means that it is the seller who will organize and pay for the delivery of the goods to the customer. There are many variants in-between those two cases, which places more or less obligation on either the buyer's or the seller's side. It is highly advisable to be aware of these aspects, as they may have important consequences on risk, cost and lead times.

Notes

Summary



19m 57s



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Finally, if you have a software product things will look quite different since your product does not have to be physically packaged and shipped in a container. However, asking yourself, how the software will be made available to the customer remains a central question. It will probably involve regulatory aspects, which are specific to each domain. For example, patient data privacy protection is a very important topic in the field of medical software. Of course, there is much more to be said on the topic of distribution. However, we believe that we have touched on the most important aspects. I think we have convinced you that it is highly advisable to start discussion on the subject with knowledgeable people early on in the process. Goodbye.

Notes

Summary



20m 55s