

# Lolli's World Ep 8

Lolli's World Ep 8.1 (Canvas)



# Introduction - accounting and pricing

**Aim of the module:** After this module, students will understand the basics of accounting and cash management. The aim of the module is to provide practical instructions for calculating the price for student's own business (service/product). On the basis of this competence, the students will understand the importance of personal hourly accounting and invoicing rates as part of the pricing of one's own competence or product.

**Content of the module:** During the module, the pricing of one's own competence will be reviewed and hourly prices for different professions are calculated in relation to working as an entrepreneur. The calculation parameters utilize VAT, entrepreneurial pension and employment legislation, customs duties, and taxation.

# Business incomes

Business income usually refers to **turnover**. However, when talking about a company's turnover, it is important to understand how VAT is treated. **VAT is an indirect tax intended to be paid by the final consumer**. With VAT, companies act as tax collectors, as they include the amount of tax in their sales prices and pay it to the State. You need to include VAT on your own prices independently, because no one will specifically call for it to be added.

Turnover is thus the sum of the sale of a company's products and services, **excluding value added tax**. In addition to VAT, any discounts are deducted from sales revenue.

Different countries (even products and services) have different levels of VAT and some industries may be completely VAT-free. Each entrepreneur must know the VAT rate in own country. Figure 1 shows VAT percentage around European Union countries.

Figure 1: VAT percentage around the European Union countries

Member States	Code	Super-reduced Rate	Reduced Rate	Standard Rate	Parking Rate
Belgium	BE	-	6 / 12	21	12
Bulgaria	BG	-	9	20	-
Czech Republic	CZ	-	10 / 15	21	-
Denmark	DK	-	-	25	-
Germany	DE	-	7	19	-
Estonia	EE	-	9	20	-
Ireland	IE	4.8	9 / 13.5	23	13.5
Greece	EL	-	6 / 13	24	-
Spain	ES	4	10	21	-
France	FR	2.1	5.5 / 10	20	-
Croatia	HR	-	5 / 13	25	-
Italy	IT	4	5 / 10	22	-
Cyprus	CY	-	5 / 9	19	-
Latvia	LV	-	5 / 12	21	-
Lithuania	LT	-	5 / 9	21	-
Luxembourg	LU	3	8	17	14
Hungary	HU	-	5 / 18	27	-
Malta	MT	-	5 / 7	18	-
Netherlands	NL	-	9	21	-
Austria	AT	-	10 / 13	20	13
Poland	PL	-	5 / 8	23	-
Portugal	PT	-	6 / 13	23	13
Romania	RO	-	5 / 9	19	-
Slovenia	SI	-	5 / 9.5	22	-
Slovakia	SK	-	10	20	-
Finland	FI	-	10 / 14	24	-
Sweden	SE	-	6 / 12	25	-
United Kingdom	UK	-	5	20	-

Source:

[https://ec.europa.eu/taxation\\_customs/sites/taxation/files/resources/documents/taxation/vat/how\\_vat\\_works/rates/vat\\_rates\\_en.pdf](https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/vat/how_vat_works/rates/vat_rates_en.pdf) 

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*For instance, the most common VAT rate in Finland is 24 percent. If an entrepreneur sells his services at the general tax rate to a customer for EUR 30,000 during the year, VAT of 24% must be added to each individual invoice. As a result, 37,200 € ( $30,000 \text{ €} * 1.24 = \text{€} 37,200$ ) will be credited to the company's account, of which EUR 30,000 is the company's turnover and EUR 7,200 is VAT. The entrepreneur pays this part of the VAT to the tax office on his own initiative. However, from that amount of 7,200 €, the company may deduct the proportion of VAT on products or services purchased for its business. Every entrepreneur should understand that VAT is not business money, but that it belongs to the State.*

The company may have other income, such as grants or other extraordinary income, which is presented in the income statement as a separate item in other operating income. This is recognized in the income statement separately from net sales so that the company is able to determine the profitability of the actual business.

# Business expenses

The cost structure of a business is quite easy to present using a company income statement. The income statement formula below is very simple, but it is good enough for many small business owners. It presents the company's main income and expenses, which should be kept separate in the income statement.

## SALES

### Materials and services

- Materials, supplies and goods

- External services

### Personnel expenses

- Salaries and fees

- Social security expenses

- pension costs

- other staff costs

### Depreciation and impairment

- Depreciation according to plan

- Impairment losses on non-current assets

- Exceptional impairment losses on current assets

### Other operating expenses

## **OPERATING PROFIT (LOSS)**

**Materials and services** relate to subcontracting of the product or service and this is presented in its own category. If you produce a product or service that you sell without the purchase of materials and the help of a third party, the financial statements are usually blank for these costs.

**Personnel costs** tell you how much the company has paid and what salary items the total salary paid by the company includes. In the case of a start-up entrepreneur, it is quite common for the owner not to pay himself or herself in the first year, but to live on the savings he or she has previously collected or on the wage income he or she has received from the main job.

**Personnel side costs**, in other words employer's social security contributions, include sickness insurance contributions, earnings-related pension insurance contributions, unemployment insurance contributions, group life insurance contributions and occupational accident and disease insurance contributions.

The side costs for an employee's salary vary depending on a number of different factors. These include the employee's age, the employee's occupation and the amount of salary to be paid. Also, different countries have different legislation on employee side costs, which affects their amount.

*For instance in Finland, for a contract employer (an employer with a permanent staff) pension payment is on average 16.95% of the salary amount. The amount of accident insurance varies significantly from industry to industry, for example in the field of construction it is as high as 8%. However, the average accident insurance rate is 1.3%. The amount of group life insurance depends on the collective agreement, and on average it is 0.061%. The amount of the health insurance premium in 2020 is 1.34%.*

Other salary costs include voluntary insurance and sick leave. In addition, holiday pay is a special supplement based on the annual leave law.

These additional costs must be taken into account when pricing products and services and hiring employees. Usually, these costs are estimated using a certain coefficient. In Finland, companies use an employee side cost factor of 1.25 to 1.8. Each entrepreneur should know the legislation in the own country and amount of payments based on that.

**Depreciation and impairment** are more complex. Depreciation is a calculated cost item that takes into account the depreciation of fixed assets (such as production equipment) due to wear and tear. For example, the acquisition cost of a company car is spread over depreciation which takes place over many different financial years, according to the calculated wear and tear of the car.

Impairment may be related to real estate, such as land. For example, an exceptional destruction of the value of inventories in a fire is recorded as an impairment loss in the financial statements.

**Other operating expenses** include all other operating expenses, such as telephone bills, accounting fees, the Internet, and travel expenses. Each business incurs a certain amount of other business expenses, and therefore you should be careful about how they accrue.

# Cash management alphabet

There is a lot of **scientific evidence on the importance of cash flow calculations**.

Nevertheless, many start-ups have to experience a cash crisis of their own before realizing the importance of cash flow calculations. While business advisors do push for cash flow calculations and virtually force every start-up to make one, cash crises are part of the everyday life of a start-up.

Why is it so challenging to do these calculations, even though the recipe for an orthodox cash flow calculation is known to everyone and help to do so is indeed available?

When making cash flow calculations, it should be understood that the income and expenses of the business are not realized in an instant, but **each invoice has a due date**. Sometimes it can happen that customers pay their bills late or do not pay at all. Late invoices often even have to be demanded. Every entrepreneur should live within the limits allowed by their bank account and make sure that the money does not run out.

In economic terminology, in business operations **revenue is generated when a product or service is delivered to a customer**. However, the bill may be sent before or shortly after. However, the money will not come into the entrepreneur's account until payment is received. Before the payment is received, these invoiced sales are the **company's trade receivables**, in other words, the cash flow that will be realized in the future.

The shorter the payment period given to the customer, the faster the money will flow into the company's account. However, a small company is unfortunately in a bad position when it comes to negotiating **payment terms**. Large companies in particular may pay their bills on their own schedule, even if the due date has already expired weeks earlier. In some cases, paying bills can take up to 60 days. Such long payment periods pose major challenges to the **cash management** of a small business.

Few small companies know how or are able to build good **debt collection systems**. Some entrepreneurs are exhausted by the constant delay in payments and decide to "sell" their bills to a finance company. This approach simplifies cash management but brings additional costs. If a company decides to "resell the invoices," it does not receive the full amount from the invoice, but the finance company takes a commission that is typically 5-7% of the invoice amount. Thus, if an entrepreneur sells an invoice for 100 euros, he is likely to receive only 93 euros in his account (100 euros - 7% commission). Seven euros is then the price that the entrepreneur pays for repatriating the money and at the same time minimizing the risk of trade receivables. For some entrepreneurs, this may make sense, but it should be able to be taken into account in pricing calculations.

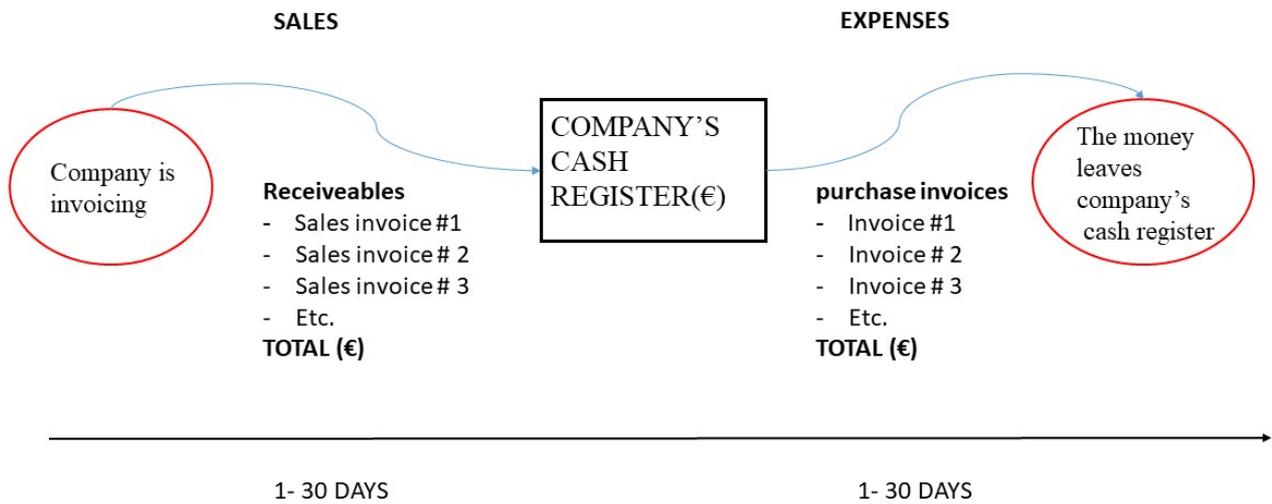
A **cost** is incurred when goods or services are bought. These may be invoiced in advance or after purchase. The money only leaves the company's account when the goods or services are paid for.

Before paying the invoice, we talk about trade payables, which typically have a payment period of 7 to 30 days.

A small business should always try to pay bills on time. Many large companies in particular have a very efficient debt collection, which immediately leads to additional costs due to late invoices.

Below you can find picture of company's money process.

# Company's money process



# Activity for students - BMC: costs and revenues

Students work in pairs or small groups on their own business/project ideas.

**When thinking about revenues and costs, they answer the following questions:**

- *What are the most important **costs** in your business model?*
- *Which key resources/activities are most expensive?*
  
- *What value are our customers willing to pay for?*
- *What are they currently paying for?*
- *How are they currently paying?*
- *How would they prefer to pay?*
- *How much does every **revenue** stream contribute to the overall revenues?*

# Pricing

The relationship between pricing and the success of a starting company has been explored in many studies. The majority of researchers have reported that a company operating in a higher-than-average price category outperform other comparator companies.

Nevertheless, many start-up entrepreneurs commit huge pricing mistakes that are difficult to correct at a later stage in the business. In some cases, entrepreneurs do not even know the gross margin of their own products but bases their prices on imitating their competitors.

**Price is one of the most important strategic decisions of a company because it influences on various things:**

- the image of the product/service,
- sales volume,
- business profitability.

When defining the final price for the product or service, entrepreneur should understand the market and understand cost structure of your own company. In the end of the day "*The price is set by the market, and costs determine the lower limit of the price*".

# Billing rate

When selling your own services, it is good to understand the concept of the **invoicing rate** in particular. The ultimate purpose of the invoicing rate is to measure the amount of work done for customers compared to the total working time available. Extremely rarely is a sole entrepreneur capable of a 100 percent billing rate. On the consulting business, an invoicing rate of about 60% is already at a good level. In practice, this means that 40% of the total working time entrepreneur is doing something other than customer work. Usually, this other work time involves sales, business development, management, or at worst, even invoiced work for the customer. A billing rate of 60% means that an entrepreneur must be able to pay all the expenses, salaries and still make a small profit with a workload of 60%.

# Monitoring working hours

Hourly accounting is a basic prerequisite for determining the invoicing rate. In addition to this, hourly recording seems crucial in the pricing of both the product and the service. For this reason, for every entrepreneur and person working in an expert organization, monitoring their own working time should become the backbone of operations. It is the only way to calculate the hourly rate for your work and to analyze the rationality of doing it.

Many may keep hourly records of their own work, but may not understand, know, or remember to record all hours worked. Very often, telephone conversations with customers, answering e-mails and other short-term work steps go unnoticed. In a small assignment, communications with the client may play a very large role. For this reason, special attention must also be paid to these activities. When doing hourly accounting, it is important that it is not done because of company bureaucracy, but in accordance with the true reality, preferably to an accuracy of 15 minutes. Only in this way will you be able to genuinely analyze what you are doing.

I know an entrepreneur who understood the importance of that area. He had A4-sized papers in his office, car, briefcase, and breast pocket, on which he documented all his telephone conversations and other communications with the client. At the end of the month, he took the stacks of paper to his secretary, who attached the content of the discussions and the time to the invoice. In this way, the entrepreneur ensured that each conversation was also billed for. In addition, customers saw what has been done on the bill. Although the self-employed billing rate was close to 160 percent of normal working time, there was never any problems with the correctness of the bills because the time spent at work was so thoroughly documented. Many start-up entrepreneurs could take lessons from this.

# Hourly accounting as a tool for self-management

A few years ago, I consulted a restaurateur and a co-owner of a business who was the key person for the business and did absolutely everything. In the mornings he was the first to sand the yard of the restaurant. In the evenings he was the last to close the doors. The working days were long, and the picture of the work was highly fragmented, consisting mainly of extinguishing fires and taking care of everyday duties. Due to the busy schedule of everyday life, there was no time left for business development. The entrepreneur did a lot of work, but the operation was not profitable.

At the beginning of the assignment, we agreed for him to initiate the monitoring of working hours. We used an excel sheet to do that. After one-month, he had to mark in red those tasks that he should not do in the role of CEO, and in yellow those tasks that could somehow be done a smarter way. The tasks marked in green would be ones that should be maintained in the future.

It was not a surprise to anyone that after a month the excel sheet contained a lot of red and yellow. This is very typical of many entrepreneurs, even employees, if they have never done hourly accounting. Many companies do a surprising amount of useless work and unnecessary work tasks. What is your working time, and do you know how many unnecessary tasks you do during the month?

Personal monitoring of working time is the basis of profitability calculation and enables self-management, which should be started during this study period.

# Activity for students – Developing the pricing strategy

How can we identify the right market price? Below you can find the necessary steps to get the market price during your field research.

## STEP 1

You need a good explanation or pitch of your product or service. The use of pictures or videos can help a lot. The critical point here is to give the potential customer a good understanding of what they can buy.

## STEP 2

The questionnaire to collect data about the pricing strategy must have three questions, separated from each other. If you have a qualitative interview, this is no problem. If you use a web assisted interview, then the advice is to have one question at each side. If you don't separate the questions, you will get interference. Probably also opportunistic answers – “the price is too high”.

The questions should be the following:

1. What can be the **highest price** you are willing to pay before it will be completely unacceptable to buy the product?

(Open answer – price in national currency)

2. What can be the **lowest price** of this product before you think this is something not worth to buy?

(Open answer – price in national currency)

3. What do you think is the **correct price** for this product?

(Open answer – price in national currency)

### **STEP 3**

When analyzing data, list all in an excel file, where respondents are presented in rows and their answers in columns. Calculate “Median”, not Average. Since the scale have no start or end, you cannot use Average. “Median” gives the best idea about the price. Make this calculation for all three questions, and you will get a price range.

- Make a discussion about how your pitch or product marketing can increase the price.
- Calculate then if your product idea is profitable.

# Pricing of one's own competence — a practical example

*The hospital district is organizing a public tender for 4 hours of open rehabilitation treatment. Treatment is provided at the patients' home and travel expenses should be included in the offer price. All rehabilitation patients are in the area of your own hospital district. The fixed costs of the company are 700 euros / month (VAT 0%) and the entrepreneur would like to ensure a monthly salary of 2 500 euros, corresponding to the industry average wage. At what price can an entrepreneur offer the service so that the operation would be at a reasonable level?*

The figure below shows how the hourly rate for this example should be calculated and what the practical steps involved in calculating the hourly rate are.



## Step 1: Calculation of fixed costs

The first step in pricing is to calculate the company's fixed costs. The amount of the company's fixed costs was 700 € (VAT 0%) and the gross salary desired by the entrepreneur was EUR 2500. Taking into account employer side costs (pension, holiday, etc.), the gross salary must be multiplied by at least 1.4. This side cost ensures that the entrepreneur also accrues a pension and is included in the price of the service. Even if the entrepreneur pays a lower pension, the pricing should be done according to the actual employer costs. In this case, the salary costs total 3500 € per month.

As a result, the company's fixed costs account for a minimum of 4200 € per month.

## Step 2: Calculation of variable costs

The work takes place at the customer's premises and each customer visit generates travel costs. As a basis for pricing, the entrepreneur must be able to estimate the number of driving kilometers per patient visit. It can be estimated that one customer visit generates an average of 40 driving kilometers.

Pricing should be done in accordance with the travel guide's rules. Every entrepreneur should understand the laws and costs of commuting in their own country.

In 2020, the cost per kilometer for the employer was 0.43 € / km (in Finland). At this stage, it is not worth worrying about whether the entrepreneur is driving his own car or a company car, because from a pricing point of view, the end result is the same.

Thus, one customer visit generates a variable cost of 17.20 € for the company ( $40 \text{ km} * 0.43 \text{ € / km} = 17.2 \text{ €}$ ). There are usually no other variable costs associated with this type of activity.

## Step 3: Billing rate

Next, the entrepreneur should evaluate how many 4-hour patient visits he or she is able to perform per week (theoretically). With travel times, one patient visit should last an average of 5 hours. According to a conservative assessment, the entrepreneur should (at least) be able to carry out visits as follows: (i) two patient visits per day, two days a week, and (ii) one patient visit per day, three days a week. Thus, the entrepreneur is able to carry out an average of 7 patient visits per week.

In reality it may not be possible to do more patient visits on a weekly basis because the entrepreneur has other responsibilities and obligations, such as i) writing patient visit reports (because the visits usually need to be reported to the customer), ii) arranging new patient visits, iii) doing other business management and / or sales promotion tasks.

Next, the number of patient visits should be estimated on an annual basis. Everyone needs a vacation, even an entrepreneur. These holiday periods should be taken into account in the pricing of the product. On average, holidays are held for at least 7 weeks a year (including public holidays). In practice, this means that the effective working time per year is only 45 weeks.

Thus, the entrepreneur is theoretically able to make 315 customer visits per year ( $7 \text{ times per week} * 45 \text{ weeks}$ ). During this time, you should earn so much that you are able to pay yourself a salary for the holiday period as well.

If you want to change the number of customer visits to an invoicing rate, you can arrive at this figure as follows.

- On an annual basis, an entrepreneur could work 1950 hours ( $37.5 * 52$ ), but does only 1260 hours of billable work ( $28 * 45$ ). In this case, the annual invoicing rate is 65% ( $1260\text{h} / 1950\text{h}$ ).

Even if the entrepreneur does not receive a full workload for himself through this framework agreement, the pricing of the service has been calculated to correspond with a full-time business.

Only in this way will it ensure a price level that allows for business continuity.

#### **Step 4: Cost price of the service**

On an annual basis, the company's fixed costs are  $4200 \text{ €} / \text{month} * 12 \text{ months} = 50,400 \text{ €}$ .

Each patient visit incurs variable costs of  $17,2 \text{ €}$ . So, 315 customer visits generate variable costs totaling  $5418 \text{ €}$  ( $315 * 17,2\text{€}$ ).

The company's total annual costs are therefore  $55\,818 \text{ €}$ .

Thus, the cost price for a four-hour patient visit is  $55\,818 \text{ €} / 315 = 177,2 \text{ €}$ . The hourly cost price is therefore  $44,3 \text{ €/h}$ .

However, this price does not yet generate a profit for the company, but the entrepreneur receives the same salary for himself as he would in the role of employee ( $2500 \text{ €/month}$ ).

#### **Step 5: Price including an entrepreneurial "reward"**

Business involves risk. For this reason, a company's return expectation should be higher than just the wage labor cost. At the general level, a profit margin of 15% can be considered a good performance.

This profit share means that a return of 15% must be added to the cost price ( $177,2 \text{ €}$ ). In this case, you have to invoice  $208,47 \text{ €}$  ( $177,2 \text{ €} / 0.85 = 208,47 \text{ €}$ ) for a four-hour customer visit, with the company's hourly price being  $52.12 \text{ €}$ .

#### **Step 6: Adding VAT**

The entrepreneur must know for himself whether or not it is subject to VAT. In the pricing example of the course, it is good to consider VAT because so many industries are covered. The most typical VAT rate in Finland is 24 percent.

By adding 24 per cent to the cost price, the price of a four-hour customer visit is  $258,52 \text{ €}$  (VAT 24%) and the hourly price is  $64,62 \text{ €}$  (VAT 24%).

So this is the price the customer pays into your business account for that service.

#### **Step 7: Entrepreneur 's reward after taxes**

With this cost accumulation, the provision of the service at an adequate level and the entrepreneur receives a small premium for the risks to the business. However, taxes must be paid on this premium.

# Pricing a product - a practical example

*Lolly sells hats and shirts she makes herself online (etsy.com) and considers their pricing. She has bought herself a new sewing machine that allows her to make great hats and shirts efficiently in her own way. The purchase cost of the machine was 5000 euros (VAT 0%) and the seller has promised a service life of at least three years for the machine. Lolly has tested the use of the machine and according to preliminary estimates, one hat could be completed in about 1,5 hours and a shirt in 3 hours. Lolly has read in discussion forums that maintaining your own product page in the online stores requires work. For this reason, she believes that she makes 70 percent of her time hats and shirts a day, and the rest of his working time is spent on product sales, marketing, and other administrative work.*

*For each hat, Lolly will buy yarn for 3 euros and one shirt for 7 euros. Lolly has also determined the packaging and postage costs of the products. They average 6 euros for a hat and 9 euros for a shirt. Selling products in artisan-designed online stores is free, but they charge an average of 30 percent commission on the product sold. In addition, the payment intermediary charges a 5% commission on each product sold.*

*Other company-level, fixed costs are about 400 euros per month. They relate to IT, data and banking costs. Based on this information, Lolly wonders how much self-made hats and shirts should cost in an online store?*

## **Step 1 - Familiarize yourself with the background information of your company**

The design, manufacture and sale of products are such diverse activities that it is not quite simple to determine the product-specific price. However, every entrepreneur must understand the costs and parameters of the operation, which allows for a genuine profitability calculation. Without this understanding, product pricing is a lottery and product profitability can be negative. Before pricing products, every entrepreneur should familiarize themselves with the following things and figure them out from the perspective of their own operations. Only then can a genuine profitability calculation be made.

**Hourly rate for your own work:** Every entrepreneur should consider how valuable their own time is. This should be reflected in the industry's wage costs. In the case of Lolly, the monthly salary received from paid work could be about 2500 euros per month. In addition to this, the costs must take into account the employer's contributions. Depending on the industry, companies pay employer side costs according to a factor of 1,25 to 1,8. Thanks to these side costs, the entrepreneur ensures that the pricing includes the entrepreneur's pension.

When calculating your minimum hourly rate, you may want to use a 1,25 page cost factor. Thus, the employee pays his employer a total of 3125 euros/month (2500 euros \* 1,25). On an annual basis, the salary cost is 37,500 euros (12 \* 3125 €).

When calculating the hourly rate, it is also good to take into account the employee's holiday times. It's easy for an entrepreneur to think they don't need a vacation or work in the evenings or on the

weekends. It is possible to do this, but that is completely wrong in the pricing of products.

For this reason, it is smart to use a 37,5-hour working week as a pricing framework. After this, it is good to estimate the employee's vacation times. The average employee takes holiday for at least 7 weeks a year (including statutory holidays). In practice, this means that there is only 45 weeks of effective working time per year. Thus, the effective working time per year is a maximum of 1687,5 h ( $45 * 37,5$ ). Thus, one working hour costs a minimum of 22,22 euros ( $37,500 \text{ €} / 1687,5 \text{ h}$ ). This is a good work figure for pricing self-made products.

**Hourly accounting:** The making of handicrafts takes the entrepreneur's working time and therefore it makes sense to follow your own work from the beginning. For this purpose, it is worth starting personal hourly accounting, through which you are able to track your own use of time. Hourly accounting serves as a tool for self-management and provides extremely important information for pricing self-manufactured products or expertise. Without this, the pricing of products or know-how is a lottery and product-specific margin calculations may be distorted.

It is advisable for a person who manufactures and sells his or her own products to plan hourly accounting so that it is possible to monitor one's own work on a product-by-product basis. Lolly should also implement hourly accounting as a product based. Only in this way can she catch the exact product-specific margin. At the design stage, Lolly has estimated the working time used to make one product (1,5 hour for a hat and 3 hour for a shirt) . However, only longer-term hourly accounting reveals the true figure. For this reason, keeping hourly records is also important for the sole proprietor and the self-employed.

Sales and marketing, logistics, and other administration are company-specific activities and can be difficult to break down in hourly accounting by product. Nevertheless, their role is good to monitor, as the time spent on them has an impact on the overall profitability of the products.

It is advisable to keep such hourly records every day, preferably to the nearest 15 minutes. The first product-specific margin calculations can be made according to preliminary hourly estimates. After longer hours of accounting, the manufacturing time used for the products becomes more precise and the profitability of the products changes with it.

## **Step 2 - Calculation of variable costs**

**Variable costs:** Variable costs are products or services procured from a third party that are related to the manufacture of an individual product. In addition, variable costs include labor costs associated with the manufacture of the product.

In the case of Lolly, variable costs include yarn purchases for products and packaging and postage costs. In addition to this, variable costs are the wage cost of making a hat and a shirt.

**Variable costs for making a hat:** The cost of manufacturing a hat is 33,33 euros ( $1,5 \text{ h} * 22,22 \text{ €}$ ). The purchase costs for the product (yarns 3 euros and packaging and postage costs 6 euros) are 9 euros. Making a hat costs for Lolly 42,33 euros.

**Variable costs for making a shirt:** The cost of making a shirt is 66,66 euros ( $3 \text{ h} * 22,22 \text{ €}$ ). The purchase costs for the product (yarns 7 euros and packaging and postage costs 9 euros) are 16

euros. In total, making a shirt costs for Lolly 82,66 euros.

### Step 3: Calculate the fixed costs

**Fixed costs:** Fixed costs are company-level costs that are not easy to allocate on a product-by-product basis. These are typically the company's administrative costs or potential rental costs. It is a good idea to keep these costs in their own category and when calculating pricing, consider whether it is possible or even sensible to target them on a product-by-product basis. In the case of Lolly, the fixed costs are 400 € / month, which related to IT, data and banking costs. On an annual basis, fixed costs make € 4,800

**Fixed wage costs:** According to a preliminary estimate, Lolly spends 30 percent of her working time on sales and marketing, logistics and other administrative costs. Salary expenses for the year were 37 500 € of which 30 percent is 11 250 €.

**Investments:** Investments are non-recurring purchases with a useful life of more than one year. Typical investments include machinery and equipment that brings other commodities into production. In the case of Lolly, the investment is related to the purchase of a sewing machine (5000 euros), which can be used to manufacture products for sale for several years.

For many companies, the investment is financed by a bank loan and repaid with the proceeds from the sale of the products. The correct pricing of products and the profitability of the business enable the repayment of loans.

Machinery and equipment must be renewed at regular intervals and therefore their cost must be able to be taken into account as part of the final price of the product. In other words, enough money must be earned from the business to make it possible to acquire new machinery and equipment. If the entrepreneur is not able to do this, he always returns to the starting point of the business when planning a new investment and, in the worst case, has to mortgage his own property to acquire new machinery and equipment.

Lolly will invest 5 000 euros in a new sewing machine at the beginning of its operations. The seller had promised a product life of at least 3 years. For this reason, the investment of 5000 € must be spread evenly over a three-year period. In the company's income statement, this is taken into account through depreciation. Depreciation for one year (= cost) would therefore be 1667 €.

**Total fixed costs:** In the case of Lolly, the company's fixed costs total 17,717 € per year (€ 4,800 + € 11,250 + € 1,667).

### Step 4 - Allocation of fixed costs

In product-specific margin calculations, fixed costs must be able to be allocated to the product level, which only reveals the product's true profitability, ie EBITDA. Taking fixed costs into account in product-specific margin calculations is a step more complicated.

Before allocating fixed costs on a product-by-product basis, the potential production capacity of the shirt and hat must be calculated. Lolly works 37,5 hours a week, 70 percent of which she is able to use to make either hats or shirts, or 26,25 hours per week. In theory, she is able to work 45

weeks a year, giving an effective working time of about 1 181,25 hours per year ( $26,25 \text{ h} * 45 \text{ h} / \text{week}$ ).

If Lolly would focus only on making hats, she would be able to make 787,5 hats per year ( $1\ 181,25 \text{ h} / 1,5 \text{ h}$ ). If he focused solely on making shirts, he would be able to make 393,75 shirts a year ( $1\ 181,25 \text{ h} / 3 \text{ h}$ ) a year.

Based on this information, it is possible to calculate the fixed cost of making one hat and a shirt. The fixed cost for making one hat is 22,50 € ( $1\ 7717 / 787,5 = 22,50 \text{ €}$ ) and the fixed cost for making a shirt is exactly 45 € ( $1\ 7717 / 393,75 = 45 \text{ €}$ ).

In this example, fixed costs were evenly distributed for both hat and shirt manufacturing. Many companies have a situation where customer, customer delivery or product design work related to one product takes more time or costs than another product. In other companies, the machine needed to make one product costs significantly more than the machine needed to make another product. In such cases, fixed costs should be better allocated on a product-by-product basis. In practice, this could mean allocating timesheets related to administrative matters so that sales and marketing, logistics and other administrative work are allocated on a product-by-product basis and taken into account as part of the margin calculation. In this example, sales and marketing, logistics, and other administration were recorded on a company-by-company basis and distributed evenly across each product.

**Platform Provider Commission and Payment Intermediary Commission:** The platform provider's sales commission is 30 percent. Although similar to its variable costs, it should only be taken into account in the margin calculation after fixed costs. If the share of the commission were increased after variable costs, before allocating fixed costs, the result would be incorrect. The same logic should be used to calculate the payment commission.

### **Step 5 - Cost price after variable and fixed costs**

The manufacture of one hat generated variable costs of 42,33 € and fixed costs of 22,50 €. Based on the initial information provided, the manufacture of a hat costs Lolly a total of EUR 64,83 ( $42,33 + 22,5$ ).

Correspondingly, the manufacture of the shirt generated variable costs of 82,66 euros and fixed costs of exactly 45 euros. Based on the initial information provided, making one shirt costs Lolly a total of 127,66 euros ( $82,66 + 45$ ).

After this, the commission taken by the platform provider (30 %) and the payment intermediary's commission of 5% must also be taken into account in the calculations.

Taking these commissions into account, the selling price of one hat should be at least 99.74 € ( $64,83 \text{ €} / 0,65$ ) and the selling price of a shirt at least 196.40 € ( $127,66 / 0,65$ ). At these product prices, according to the parameters defined above, the entrepreneur earns about 2 500 euros per month from his work. In the conditions that all the products are sold and customers pay their bills.

### **Step 6 - Cost price of products after VAT**

VAT must be added to these prices. If the entrepreneur sells his products on the platform, he must be familiar with the VAT or other possible import customs tax policy of the destination country. Taxes are not money left for the entrepreneur, but the entrepreneur collects them from the customer and pays them on later.

The Finnish VAT rate is 24 per cent, which is a good example of this example. In the Finnish market, the consumer price of a hat would be 123,70 € (VAT 24%) and the consumer price of a shirt 243,55 € (VAT 24%).

### Step 7 - Final price of the products

With regard to product pricing, it is said that “*The price is set by the market, the costs determine the lower limit.*” Before setting the final price, it is a good idea for the entrepreneur to do a preliminary market research and look at how that price settles at the price level set by the market. If the price of the product is very high to the level offered by the market, the entrepreneur should consider following things;

- Is the product so specific that the highest price on the market is justified? If so, the high price is not to be feared, especially among artisans. Studies show very unequivocally that operating in a higher price category is more likely to bring success than operating in a lower price category. This is especially true for artisans (and self-employed people). Too low pricing simply does not allow for high enough earnings for many. According to a survey of sole proprietors conducted by Finnish entrepreneurs Association, 25 per cent of Finnish sole proprietors earned less than 1 000 per € month and 50 per cent less than 2 000 € per month. In this context, it is good to understand that the employee's minimum wage in Finland is about 1700 euros per month. According to the parameters set out above, this price level allows earning of 2500 €/month. If the entrepreneur wants to earn more than the average salary in the industry, the entrepreneur must recalculate and set the desired monthly salary in the initial data, instead of 2 500 euros.
- If the price of the product is far too high in relation to the price level set by the market, the entrepreneur must return to her own cost factors. It is possible to reduce the cost price of that example by considering the following parameters.
  1. **Time spent making a hat or shirt.** Can one product be made faster than the initial example?
  2. **More efficient allocation of one's working time to the manufacture of products.** Could an entrepreneur spend more than 70 percent of his working time making hats and shirts, which will also increase production capacity.
  3. **Improving the efficiency of raw material procurement.** Could an entrepreneur buy raw materials in larger batches, which reduces unit costs?
  4. **Reducing the platform provider's sales commission.** Could an entrepreneur find alternative sales channels where the percentage of intermediaries decreases? One option is, of course, to sell your own products without intermediaries, but usually it incurs more sales and marketing costs for the company. This is an extremely important strategic decision as to which channel your own products should be sold through and how much it will cost.

In this context, it is not worth cutting your own salary costs. It is not a sustainable way to do business. Many small entrepreneurs can reduce the price of a product by extending their own

working day. In this case, the entrepreneur would likely make hats and shirts a little more efficiently and do some of the administrative work in her spare time. He would likely make hats and shirts 90 percent of the time and handle other business affairs on the weekends. This approach allows for a lower product price and exemplary monthly earnings, but not business scaling. The entrepreneur herself can do overtime, but no employee agrees to this. If an entrepreneur hires an employee to manufacture products calculated with the wrong parameters, the business is likely to turn unprofitable and the challenges of the business will begin. Hiring an outside employee should not be the purpose of the business, it is worth considering on a case-by-case basis and only when pricing is in order.

# Pricing - classroom examples

In the classroom, you can teach pricing with the help of following examples.

## Question number 1

You do engineering design on a part-time basis and wonder what kind of hourly wage you should get for the job so the business can support you full time? You have calculated that the fixed costs of running a business are about 900 euros (VAT 0 %) per month and you would like to pay yourself a minimum wage of about 4,200 euros per month. In the industry you represent, the employer's side costs amount to about a factor of 1.4. You estimate that as a self-employed person, you will be able to do 60 percent of your working time on billing work and 40 percent will go into running your own business administration. Working an average of 7.5 hours a day as an entrepreneur you also want to take a normal holiday. You estimate that there are 45 weeks of active work a year. The work is mainly done at home, so travel and subsistence costs are not incurred for that work. What is the cost price of your hourly billing (VAT 0%) so that you earn at least the same as you would as an employee as an entrepreneur?

Below is a summary of the solution to the problem.

### Step 1 - Calculation of fixed costs

The first step in pricing is to calculate the company's fixed costs. The company's fixed costs amounted to EUR 900 (VAT 0%) and the entrepreneur's desired gross salary was EUR 4,200. Taking into account employer contributions and holiday pay, the gross salary must be multiplied by at least 1.4 times. Even if the entrepreneur pays a YEL pension, the pricing should be done according to the actual employer costs. Without this multiplier, you will not accrue to yourself the corresponding pension of the employee. In this case, the salary costs total 5880 euros per month.

As a result, the company's fixed costs account for a minimum of € 6,780 per month (€ 5,880 + € 900).

### Step 2 - Calculation of variable costs

Because the work is mainly done at home, there are no mileage allowances and daily subsistence costs in this example. In terms of travel expenses, the company has two options;

- Invoices travel expenses on the top of hourly fee (fairly common practice)
- If travel expenses cannot be invoiced separately, they must be taken into account in the pricing for variable costs. This should be done for each customer separately if their size varies from customer to customer.

No other variable costs are accrued in this example.

### Step 3 - Billing Rate

Understanding the billing rate is challenging for some start-up entrepreneur. Every entrepreneur needs to think very realistically about how many hours of billable work he or she will be doing on a weekly basis. A start-up entrepreneur has many other tasks, such as managing the company's administration, acquiring new customers, managing existing customer relationships, etc. These work tasks should be taken into account when considering the invoicing rate. In this example, it can be estimated that an entrepreneur has to do 60 percent of the total working time for billable customer work and 40 percent of the working time goes to other tasks. In other words, billable work can be done for about 4,5 hours per day. It is possible to do 22,5 hours of billable work per week.

Everyone needs a vacation, even an entrepreneur. These holiday periods should also be taken into account in the pricing of the product. On average, holidays are held for at least 7 weeks a year (including public holidays). In practice, this means that the effective working time per year is only 45 weeks.

Taking into account the parameters described above, the entrepreneur is able to do a total of 1012.5 hours ( $22.5 \text{ h} * 45$ ) per year.

#### **Step 4 - cost price of the service**

On an annual basis, the company's fixed costs are  $6780 \text{ €} / \text{month} * 12 \text{ months} = 81360 \text{ €}$

The entrepreneur's theoretical billing capacity is 1012,5 hours.

Therefore, the cost price for one hour is  $80,36 \text{ €} / \text{h}$ .

However, this price does not yet generate a profit for the company, but the entrepreneur would receive the desired wage in accordance with the collective agreement. He would probably get this in the role of an employee as well.

## **Question number 2**

Continuing with the example described above. You want a 15 percent margin on your business. What is the final price of your services (VAT 24%) that the customer will have to pay into your business account?

Below is a summary of the solution to the problem.

The cost price of your services was  $80,36 \text{ €} / \text{h}$ .

However, this price does not yet generate a profit for the company, but the entrepreneur would receive the desired wage in accordance with the collective agreement. He would probably get this in the role of an employee as well.

#### **Price including entrepreneurial fee**

Business involves risk. For this reason, the company's return expectation should be higher than wage labor. At the general level, a profit margin of 15% can be considered a good performance.

This profit share means that a return of 15% must be added on top of the cost price (€ 80,36). In this case, the hourly rate is 9454 € ( $80,36 / 0.85 = € 94,54$ ).

### **Adding VAT**

The entrepreneur must know for himself whether or not it is subject to VAT. The most typical VAT rate is 24 percent. That VAT rate is also binding on the entrepreneur of the example.

By adding 24 per cent to the hourly rate calculated above, the value of one billable hour is € 117.22 (VAT 24%).

So, this is the price the customer pays into your business account for that service and the VAT portion of the VAT is paid by the entrepreneur to the taxpayer each month.

## **Question number 3**

You work as a part-time masseur. You currently charge 40 euros per hour for your work (24% VAT). You would like to support yourself full time as a masseur. You have calculated that the fixed costs of your business are about 1000 euros per month (VAT 0%). You are aiming for a gross income of 3000 euros for yourself as an entrepreneur. In the first stage, you are not aiming for an entrepreneurial bonus, but you are satisfied with the earnings of 3 000 €. How many hours a week should you do billable work to meet your goal? Use the following defaults in your calculations. Wage payment coefficient 1,4. Active working time 45 weeks per year.

Below is a solution to the problem

### **Step 1 - Cost calculation**

The company's fixed costs amounted to EUR 1,000 (VAT 0%) and the desired gross salary was 3000 €. Taking into account employer contributions and holiday pay, the gross salary must be multiplied by at least 1,4 times. Even if the entrepreneur pays a YEL pension, the pricing should be done according to the actual employer costs. Without this multiplier, you will not accrue to yourself the corresponding pension of the employee. In this case, the salary costs total 4200 euros per month.

Therefore, the share of the company's fixed costs is at least 5,200 € per month ( $4,200 € + 1,000 €$ ).

Because the work takes place on company premises, you will not incur any travel costs. There are no other fixed costs for such work, because you have previously set a target salary of 3000 € per month.

The cost per year is 62,400 euros, which is how much you have to do billable work.

### **Step 2 - Calculation of VAT**

You are currently billing 40 € per hour (VAT 24%) for your work. Before you can make more detailed calculations, you will need to calculate the VAT 0 % on your hourly billing price.

It happens as follows.  $40 € / 1,24 = 32,26 €$

### **Step 3 - Target hours per year**

You know that the total cost of your business per year is 62,400 € and the hourly rate you charge is 32,26 € (VAT 0%). Dividing these numbers will give you the number of hours you should do massage work each year.

$$62400 \text{ €} / 32,26 \text{ €} = 1934 \text{ hours}$$

### **Step 4 - Target hours per week**

According to the assignment, you would like to take leave like a normal employee and work only 45 weeks a year. You get the number of target hours per week by dividing the annual target by the working week.

$$1934 \text{ hours} / 45 \text{ weeks} = 42 \text{ hours per week}$$

## **Question number 4**

You would like to start a training business. You plan to sell your services to other companies. You understand that sales work takes a lot of time. Business advisors have instructed you to set aside up to 70 percent of your working time to sell your services and 30 percent to hold training. You would like to pay yourself 4300 euros a month in salary. On top of that, you'd like a 20 percent entrepreneurial reward for the risk you take. Your company's fixed costs are 600 euros (VAT 0%) per month, you can bill the customer for travel expenses. As in the previous examples, you work 45 weeks a year and the payroll side factor is 1,4. How much should you be able to bill for one training day in order to meet your goals?

Below you can find solution to the problem

### **Step 1 - Cost calculation**

The amount of the company's fixed costs is 600 euros (VAT 0%) and the desired gross salary is 4300 euros / month. Taking into account employer contributions and holiday pay, the gross salary must be multiplied by at least 1,4 times. Even if the entrepreneur pays a pension, the pricing should be done according to the actual employer costs. Without this multiplier, you will not accrue to yourself the corresponding pension of the employee. In this case, the salary costs total 6020 euros per month.

Therefore, the share of the company's fixed costs is at least 6620 euros per month (6020 € + 600 €).

### **Step 2 - Calculation of variable costs**

Because you are able to bill the customer for travel expenses, you will not incur any variable costs.

### **Step 3 - Billing Rate**

Understanding the billing rate is challenging for many start-up entrepreneur. Every entrepreneur needs to think very realistically about how many hours / days of billable work he or she will have to

do on a weekly basis. In particular, sales of education services may be slow at the beginning and therefore the billing rate should not be overestimated. The 30 percent billing rate is at a secure level.

Everyone needs a vacation, even an entrepreneur. These holiday periods should be taken into account in the pricing of the service. On average, holidays are held for at least 7 weeks a year (including public holidays). In practice, this means that the effective working time per year is only 45 weeks.

Thus, there are 225 effective working days per year. If your billing rate is 30 percent, you will only be able to do training 67,5 days a year.

#### **Step 4 - Required billing amount per year**

On an annual basis, the company's fixed costs are  $6,620 \text{ €} / \text{month} * 12 \text{ months} = 79,440 \text{ €}$

You want a 20% entrepreneurial fee on top of this, so customer invoicing should be at least  $99,300 \text{ €}$  ( $79,440 \text{ €} / 0,8$ ).

#### **Step 5 - Daily rate**

Now you have the required annual invoicing amount (VAT 0%) and the estimated number of training days with a 30% invoicing rate. Based on this information, you can easily calculate the daily price for training.

$99,300 \text{ €} / 67.5 \text{ days} = 1471.11 \text{ €}$  (VAT 0%) per day.

#### **Step 6 - Adding VAT**

The entrepreneur must know for himself whether or not it is subject to VAT. The most typical VAT rate is 24 percent. That VAT rate is also binding on the entrepreneur of the example.

Adding 24 percent to the daily price calculated above gives the value of one billable day  $1824.18 \text{ €}$  (VAT 24%) per day.

So this is the price the customer pays into your business account for that service and the VAT portion of the VAT is paid by the entrepreneur to the taxpayer each month.

## **Question number 5**

Let's continue according to the example above and with the goals set by the entrepreneur. Next year, however, estimates are expected to ease sales as i) you are able to sell follow-on assignments to existing customers and ii) customers begin to recommend your services to new customers. For this reason, you estimate that your billing rate will already rise to 50%. In this new situation, how much will you have to charge for one training day to be surprised by the goals you set?

The solution to the problem below.

#### **Step 1 - Cost calculation**

The amount of the company's fixed costs is 600 euros (VAT 0%) and the desired gross salary is 4300 euros / month. Taking into account employer contributions and holiday pay, the gross salary must be multiplied by at least 1,4 times. Even if the entrepreneur pays a YEL pension, the pricing should be done according to the actual employer costs. Without this multiplier, you will not accrue to yourself the corresponding pension of the employee. In this case, the salary costs total 6020 euros per month.

Thus, the share of the company's fixed costs is at least 6620 euros per month (6020 € + 600 €).

### **Step 2 - Calculation of variable costs**

Because you are able to bill the customer for travel expenses, you will not incur any variable costs.

### **Step 3 - Billing Rate**

You work 45 weeks a year. As a result, 225 effective working days are accumulated. If your billing rate rises to 50 percent, you will be able to do training 112,5 days a year.

### **Step 4 - Required billing amount per year**

On an annual basis, the company's fixed costs are  $6,620 \text{ € / month} * 12 \text{ months} = 79,440 \text{ €}$

You want a 20% entrepreneurial fee on top of this, so customer invoicing should be at least  $99,300 \text{ €} ( 79,440 \text{ €} / 0,8)$ .

### **Step 5 - Daily rate**

Now you have the required annual invoicing amount (VAT 0%) and the estimated number of training days with a 50% invoicing rate. Based on this information, you can easily calculate the daily price for training.

$99,300 \text{ €} / 112,5 \text{ days} = \text{€ } 882,66 \text{ (VAT 0\%)} \text{ per day.}$

# Lolli's World Ep 8 Conclusion

Lolli's World Ep 8.2 (Canvas)

