Virtonomics

User Guide
**Introducing Virtonomics**

- The concept
- Participant interaction
- Game turns and game updates

**For new users**

- Access the simulation
- First steps
- Managing stores
- Price, quality and brand
- Ordering supplies
- Market analysis and selling potential
- Trade hall
- Store size and location
- Employees and salary
- Advertising
- Top manager qualification
- Summary
- After first game turns

**Enterprises**

- How to open and close subdivisions
- The importance of the office and its efficiency
- Selecting the location and size of subdivisions
- Production sector
- Laboratories: R&D
- Agriculture: farms, mills, apiary, plantations, fishing bases
- Service sector
- Mining and power plants
- Warehouses
- Vertically integrated companies
- Business boosters
- Reports
<table>
<thead>
<tr>
<th>Business processes and functions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business development strategy</td>
<td>28</td>
</tr>
<tr>
<td>HR management</td>
<td>29</td>
</tr>
<tr>
<td>Marketing and advertising</td>
<td>30</td>
</tr>
<tr>
<td>Supplies and suppliers</td>
<td>31</td>
</tr>
<tr>
<td>Production</td>
<td>32</td>
</tr>
<tr>
<td>Selling the finished goods</td>
<td>33</td>
</tr>
<tr>
<td>R&amp;D: research buying technologies and licenses</td>
<td>34</td>
</tr>
<tr>
<td>Equipment: purchasing, repairing and removing</td>
<td>35</td>
</tr>
<tr>
<td>Finance</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Macroeconomics, market indexes and competition</td>
<td></td>
</tr>
<tr>
<td>World map</td>
<td>37</td>
</tr>
<tr>
<td>City indicators</td>
<td>38</td>
</tr>
<tr>
<td>Taxes and fees</td>
<td>39</td>
</tr>
<tr>
<td>Transport and rent expenses, energy costs</td>
<td>40</td>
</tr>
<tr>
<td>Renewable recourses</td>
<td>41</td>
</tr>
<tr>
<td>Retail</td>
<td>42</td>
</tr>
<tr>
<td>Market analysis: specific indicators</td>
<td>43</td>
</tr>
<tr>
<td>Competition analysis: products, sales and enterprises</td>
<td>44</td>
</tr>
<tr>
<td>Market structure and sales volumes</td>
<td>45</td>
</tr>
<tr>
<td>Service sector</td>
<td>46</td>
</tr>
<tr>
<td>Production sector analysis</td>
<td>47</td>
</tr>
<tr>
<td>References</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant interaction. Rating</td>
<td></td>
</tr>
<tr>
<td>Messaging other participants</td>
<td>49</td>
</tr>
</tbody>
</table>
Virtonomics is a multiplayer business simulation game. It is accessible through any web browser.

The company can consist of different subdivisions: from extraction of raw materials to manufacturing and selling the finished goods to end consumers. The simulation offers various types of enterprises.

Every virtual company contains all key business processes and functions: HR, production, marketing, sales, logistics, strategic management, finance, supplying, etc.

Virtonomics is not a computer-generated virtual environment: the actions of the participants influence market condition, which in turn, impacts the actions of the participants. Virtonomics participants are real users, who interact and collaborate in the virtual environment; they buy and sell to each other the products and services.

The system calculates the actions of users every specific period of time. The calculation is called a game turn. The time between the game turns is called a game update. The participants make all their decisions and moves every game turn.
The key information and the structure of virtual companies is shown on the homepage of the simulation.

**Home page**

**MY COMPANY:**

- **Enterprises:** an overview of all enterprises, opening new subdivisions.
- **Reports:** financial, market reports; reports based on specific products, technology sales, warehouse stock, logistics.
- **Management:** equipment, technologies, licenses, business boosters.
- **Strategy:** participants can define their business strategies, business models and company goals.
- **Top manager:** the qualification level of a participant in specific business fields.

**Analytics – the information about Virtonomics world:**

- **Market analysis:** reports on the products, competitors, geographical locations, licenses, production, etc.
- **Macroeconomics:** geographical map of the virtual environment, logistics and transportation expenses, seasonality.
- **Reference:** the list of industries and enterprises, business boosters and trade.
- **Bonuses and restrictions:** taxes and fees, demographics information, etc.

**RATING**

Participant performance rankings.

**TRAINING**

For instructors and trainers — access to instructor account for simulation settings.

In order to return to the homepage, go to «My company — Enterprises»
We recommend following the instructions in game manuals. However, if there are no instructions, just the goal of the game, in that case a participant or a group of participants have to devise their business strategy and tactics. There a lot of options when it comes to choosing the scale of a business venture: from launching a small retail company to building an international vertically integrated corporation. But no matter what the choice is, participants have to have clear objectives on how they are going to run their companies in the simulation.

We decided to start with the detailed description of stores and how they function in the simulation. The end consumers are generated by the system. This is the only type of enterprise, where sales are computer generated: the actions and decisions in other types enterprises (factories, farms, mines, etc.), (buying, selling) are made by real participants.

The example of how the stores work is shown on your company’s homepage:

Click on “store” and you will receive the information on store’s location, type and products.

The business model of the store is quite simple: buying supplies (at a low price) and selling to end consumers (at a higher price). The price margin has to cover all the expenses (rent of the premises, salary, advertising expenses, etc.)

You can sell various kinds of products in one store. The list of products depend on the game intensity. There is a choice of 205 types of products in Classic format (with daily game turns) and 40 in Intensive (with hourly turns).

Each product has its price, quality and brand. They depend on the type of product, location of the store, competitors and other factors.

**First steps**

Most often, the game has a specific scenario, where virtual companies have pre-configured initial conditions: a certain amount of money and employees, the level of top manager qualification as well as the goals and tips. Sometimes the game does not have a scenario and participants just receive a certain amount of virtual currency.

**Managing stores in the simulation**

**Price, quality and brand**

What is the most important?

What is more important: the price, quality or brand? There is no straightforward answer to that question. For example, if you establish a network of jewelry stores in upscale areas of the city, in that case the quality and the brand of goods will be very important. However, if your store is located in a residential area, an affordable price will be the key factor.

Do not be afraid to experiment with the prices, quality and brands.
There are different types of prices in the simulation:

- **Supplier’s price** — the price of goods, excluding transportation expenses and custom duties.
- **Purchase price** — the price you are going to pay to the supplier, including transportation expenses and custom taxes.
- **Selling price** — the price you are going to set for end consumers.
- **Average city price** — the average price of a specific product in a specific city.

**Quality** — can be any number (starting from 1 as the lowest quality indicator). The higher the quality is, the better is the product’s selling potential. **Brand** — the indicator of consumer appeal. The higher the brand is, the better is the product’s selling potential.

In order to select the supplier, go to your store, and click on the «Supply» tab, select the product category and specific the type of the product, then click on «Select supplier».

Important: The purchase price may differ considerably from the supplier price in case long distance transportation is required.

When setting up the final price, you should consider such factors as the purchase price, the additional expenses as well as the average city price of the product.

In case there are two products of the same or almost the same quality, you should buy the one with lower supply price.

If two products have the same or similar price, we buy the highest quality products.
Select the supplier of your choice from the list. Click on «Select», enter the amount of units you would like to purchase, and click on «Place an order». You will receive your order after the next game turn.

Price examples of sausage supplies.

When signing a contract with a supplier, you can set specific conditions, like stopping the supply in case the price has increased by X%, or stopping the supply in case the product quality has decreased by Y.

All contracts are long-term by default. That is, if you order 100 units, every game turn you will receive precisely 100 items.

If you wish the contract to be valid only for one game turn, tick the "One-time purchase" box.

When you are in the process of selecting products for your store, it is crucial to know whether there is a market demand for these products. Otherwise, there is a risk of investing in a product that will not sell.

In order to determine product selling potential, you need to conduct a thorough market analysis as well as price and quality analysis.
You have established your store in a certain location (country, region, and city). In order to have a clear picture of the market situation, click on «Analytics» > «Market analysis» and select the product and the region.

An example of a market report on sausages in Kazan.

Understanding market analysis data

For quick assessment look at the market development index. If it has a value of “E”, it means there is a selling potential in such market, since it is occupied only by local suppliers (computer-generated stores, which are relatively easy to compete with). If the development index is "AAA", it means that there are real players in the market and it will be more difficult to compete.

Notice the changes in price and quality. For example, the quality of this product in the market is minimal (1), the price has been decreasing for the last game turns and now it is a bit over 32. Therefore, if you are able to find a supplier of sausages (or build a sausage factory yourself) with the quality equal to or bigger than 1, but at a lower price, you have an excellent chance to generate profit.

Take a look at the list of the biggest non-computer – generated buyers. They are a good indicators to understand the selling potential of specific products. For example, each game turn «Fedorov and the company» sells about 100 units of 1.05 quality products at the price of 35.99. Therefore, if your product has the same quality, but the price is slightly lower, you can expect to sell 100 units of sausages each game turn.
The following example will help you have a better understanding about the selling potential based on the correlation between product price and quality.

<table>
<thead>
<tr>
<th>Product type</th>
<th>Supply</th>
<th>Selling price</th>
<th>City average</th>
<th>Selling potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Price</td>
<td>Quality</td>
<td>Price</td>
<td>Quality</td>
</tr>
<tr>
<td>☑️</td>
<td>5 000</td>
<td>2</td>
<td>8 000</td>
<td>1</td>
</tr>
<tr>
<td>☑️</td>
<td>50</td>
<td>1</td>
<td>120</td>
<td>110</td>
</tr>
<tr>
<td>☑️</td>
<td>150</td>
<td>5</td>
<td>600</td>
<td>800</td>
</tr>
<tr>
<td>☑️</td>
<td>50</td>
<td>1</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>☑️</td>
<td>30</td>
<td>3</td>
<td>60</td>
<td>90</td>
</tr>
</tbody>
</table>

**Satisfactory**: the price is the same as the city average, but the quality is higher

**Bad**: the price is higher than city average, the quality is the same

**Excellent**: the quality is higher than city average, but the price is lower

**Average**: product price and quality are the same as the city average

**Good**: the price is lower than city average but the quality is the same

When you order the supply, the information on the average city price and quality of the product, your supply and sales volumes, product volumes in stock, etc. can be found in store’s trade hall. You can set the selling prices of your products in the trade hall of your store.

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**Market analytics**

Do not forget to refer to the analytics reports in the business simulation. They contain the information on market structure, key competitors and their prices, as well as information on new markets to enter.

Click on «Analytics» for analytics and reference information.
Store size and location

Experiment with the market

Experiment with different strategies when selecting the location of the store, product range and price margins.

The closer the store is to the city center, the higher are the rent expenses. But the selling potential is bigger. Especially if your product is of a good quality and reasonable price.

As your business starts to grow, there will be a need to increase the size of the store: it will help you sell more products and serve bigger amount of customers.

The sign that you need to expand the store will be obvious: you will have long queues of customers in front of your store (there will be a notification of that). It means that the store has substantial customer traffic, a good price and quality correlation, qualified employees, but the store itself is too small to serve all customers, it means it is time to expand.

You can change the location and the size of your store by clicking on «Store location».

The location of the store is very important. The closer the store to the city center, the more the quality and the brand of products becomes vital. The further the store is from the city center, the more the product price becomes important. For example:

<table>
<thead>
<tr>
<th>Quality</th>
<th>Price</th>
<th>Brand</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1200</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>800</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>340</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>1</td>
</tr>
</tbody>
</table>

For new users
Naturally, the store cannot function without proper staff. You can manage the HR department of your store by clicking on «Employees and salary» on the home page of your store. There you also can find the hint on how many employees your store currently needs.

Set the number of employees and their salary, hire, dismiss and train your staff.

Employees and salary

Employees

It is better not to save on your staff expenses and your employees are crucial to your business!

Here are some recommendations on HR management:

- Your employees should correspond to the size, specialization, and growth of your business.
- For example, if you spend a lot on advertising, make sure you have enough employees to service the increased customer traffic.
- In order to increase the sales volumes, a high level of service is required, which depends on employees’ qualification. This factor is especially crucial for the stores, located in the city center or upscale areas.
- Sometimes it is better to decrease the unnecessary supply purchasing (which ties up your money) than saving on your employees.
- It is always good to have some options. You can hire expensive yet qualified employees, or you can hire less qualified employees and invest in their training and development. Or you can opt for something in-between these two strategies.
- Experiment with managing your HR department, it will help improve the overall efficiency of your staff.
Advertising

Advertising campaign efficiency

The more often potential customers see the advertising of your store, the better. Try to maintain a minimum contract figures to the city population ratio: not less than 2:1 - 3:1. That is, every resident of the city should see your ad at least 2-3 times.

Ideally, the advertising campaign of your store should be 100% efficient. The efficiency of advertising campaigns does not depend on how much money you have spent on it, but how efficiently the customers were served in your store after they had seen your ad.

In order to achieve it, it is crucial that your store works with 100% efficiency. This indicator is calculated on a regular basis in the simulation (see, the homepage of your store). The low performance of your store means that not all visitors, who came to your store to buy something, were able to make a purchase.

The efficiency of the store depends on three factors:

- The efficiency of your employees (sales assistants): the number of people and their skills, that is, their ability to provide high quality customer service.
- Manager’s qualification in Trade (you can see the information on your qualification in „My Company“ > ”Top Manager“).
- The efficiency of your office.

The last two factors will be explained in details in the following chapters.

Try different advertising channels for maximum efficiency.

Advertising is crucial in attracting potential customers to your store. This eventually might translate into customer traffic and, consequently, bigger sales volumes. In order to set the advertising campaign for your store, click on «Marketing and advertising».
The qualification of a top manager has a direct impact on the efficiency of the office and its subdivisions. Click on the «My company» > «Top manager» to see your qualification details.

### Initial qualification and its growth

The qualification level that you receive at the start of the course depends on the purpose of the course. Normally, the initial qualification is relatively high (e.g., 10 or 20), for short-term courses and training and relatively low (1-5) for long-term ones.

Your qualifications will be growing steadily if your business is profitable.

### Top manager qualification

The higher your qualification level in a certain field *, the larger, more complex, high-tech enterprises you can manage. If your qualification level is not high enough, your enterprise efficiency, staff productivity will decrease, and expenses increase.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Influence</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>influences the efficiency of offices</td>
<td>0.02%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>influences the efficiency of farms and plantations</td>
<td>0.00%</td>
</tr>
<tr>
<td>Commerce</td>
<td>influences the efficiency of stores</td>
<td>0.00%</td>
</tr>
<tr>
<td>Fishing industry</td>
<td>influences the efficiency of fishingbases</td>
<td>0.00%</td>
</tr>
<tr>
<td>Livestock</td>
<td>influences the efficiency of stock farms</td>
<td>0.00%</td>
</tr>
<tr>
<td>Marketing (advertising)</td>
<td>influences the efficiency of advertising in offices and stores</td>
<td>0.00%</td>
</tr>
<tr>
<td>Medicine</td>
<td>influences Medical Centers’ efficiency</td>
<td>0.00%</td>
</tr>
<tr>
<td>Mining</td>
<td>influences the efficiency of mines and oil wells</td>
<td>0.00%</td>
</tr>
<tr>
<td>Power Plants</td>
<td>influences the efficiency of power plants</td>
<td>0.00%</td>
</tr>
<tr>
<td>Production</td>
<td>influences the efficiency of factories, mills and sawmills</td>
<td>0.00%</td>
</tr>
<tr>
<td>Restaurant management</td>
<td>influences Restaurants’ efficiency</td>
<td>0.00%</td>
</tr>
<tr>
<td>Science research</td>
<td>influences the efficiency of laboratories</td>
<td>0.00%</td>
</tr>
<tr>
<td>Services sector</td>
<td>influences the efficiency of the enterprises specializing in services</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

The higher your qualification in a certain field is, the bigger and more hi-tech enterprises you will be able to manage. If the qualification level is not high enough, the efficiently of your business decreases, which leads to bigger expenses and lesser profit.
1. Conduct a market analysis, where you plan to establish your business. Select the products with the biggest selling potential. Focus on these products.
2. If you received just the initial capital at the start of the game, find the best market for your company, pay attention to market development index and other factors. Do not forget to open office first. An enterprise will not be able to function without an office in that particular area.
3. Order the supply of particular products (materials). Bear in mind such factors as the enterprise location, average city price, quality and brand, sales volumes of your competitors.
4. Set the selling prices of your products.
5. Make sure you have enough of employees.

1. Check the efficiency of all your subdivisions on the homepage.
2. Take advantage of the in-game hints.
3. Look at the company financial reports — that way you can see which subdivisions of your company are more profitable.
4. Check the sales volumes in the trade hall and the warehouse of your factory are all products selling out? How many units were ordered and how many were sold? Experiment with prices if necessary.
5. Improve the sales and leftover stock supplies. Bear in mind that there is no point in investing into products that are not selling out.
6. Launch an advertising campaign. Try various advertising channels and budgets. Increase the efficiency of the advertising campaign.
7. Expand your business — optimize the processes in existing subdivisions or open new ones. Which ones exactly and how? Please, continue reading.
**How to open and close subdivisions**

**The construction period**

Bear in mind that the opening of some particular subdivisions may take some time (more than one game turn). A small consumer goods factory can be built in one or two game turns. The building of a huge technology factory, however, will take place during more than 10 game turns.

Offices and stores can be opened during one game turn.

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**The importance of the office and its efficiency**

**Office management**

The homepage of your office:
- «Employees and salary» for hiring employees to your office.
- «Equipment» и «Automatic repair» for buying, repairing or removing computers
- «Change size» for changing the size and location of your office.

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**In order to open a new subdivision** click on the link with the same name on your company’s homepage:

![New subdivision](image)

**In order to close the subdivision**, click on the link of the same name on the subdivision’s homepage:

![Close enterprise](image)

In order to open a subdivision in any geographical location, first, you need to open an office in that exact area. This will be the main headquarters, where the management team is working. Similar to stores, it does not take time (game turns) to build an office. You will be able to open your office during one game turn. Bear in mind that offices in Virtonomics do not generate any profit, since they do not produce or sell anything. Please, take into consideration such factors as education level of the population (the employees have to be appropriately qualified), average city salary, rent prices.

Your office has to operate at a maximum efficiency level. It depends on the following factors:

- **Your employees’ efficiency** — the qualification of your staff cannot be lower than the city average and lower than the requirements of the job.
- **The quality and condition of computers** — each employee has to be provided with a computer. The higher the quality of the computers is, the more qualified should be your employees. Pay attention to the tear and wear condition of your computers: outdated computers have negative impact on the efficiency of your office.
- **The efficiency of a top manager (you and other participants)** — the qualification level of the user in «Management» (see «My company» > «Top-manager»)

High efficiency level of your office has a positive impact of the efficiency of all your subdivisions in the region.
In order to change the location and size of your enterprise, use the functions of the same name on the homepage of your enterprise.

An example of how to select the location and size of the factory: (the same as for the offices, laboratories, etc.):

Factories are built to manufacture something out of raw materials. You can deliver the finished goods to your stores or the stores of other participants. Your finished goods, in turn, can be used as raw materials, parts or accessories for other manufacturers. Naturally, you can sell your finished goods not only to stores, but to the factories as well (yours and other participants). The same is with raw materials — you can deliver it to your factories and the factories of other users.

There is a big choice of factories and industries. There are 60+ types of industries in Virtonomics Classic. Given the fact that the finished goods may vary depending on the specialization and type, the selection of factories is very broad.
In Fast realm there are 15 manufacturing-related industries.

**Factory business model** is not complicated: you need to buy raw materials, which will be in the factory. The finished goods can be sold to other participants in the simulation. The product quality depends on the level of technology. Qualified staff is need in order for the factory to function.

An example of a bread manufacturing factory:
The quality of finished goods depend on the quality of equipment and raw materials, the qualification level of the staff and technology level. We have already evaluated the effect of quality on selling potential: if you manufacture products of a high quality at the expenses lower than that of your competition, the selling potential of your production is very high. The technology level at your factory can be increased in the following ways:

- **Purchasing a license of a certain technology level** — it will be valid only for the factory, it has been purchased for. Normally, it is not that costly, but its functionality is limited only to one factory.
- **Purchasing the technology** — in this case the technology can be installed into all similar subdivisions in your company. Although it might cost a lot, it can be used in all your subdivisions at once.
- **Carrying out research in your laboratory** and use the newly researched technology in your enterprises. You can also sell it to other participants.

In order for laboratories to work, you need to hire qualified staff, buy appropriate equipment and, of course, invest a lot of time.

Just like in other subdivisions, the staff has to be accordingly qualified and earn specific salary. The equipment has to be of an appropriate quality. In order to know what the optimal settings for laboratories are, pay attention to the hints in the simulation. The functionality is the same as in the other subdivisions.

Just like offices, laboratories do not generate any profit. However, your R & D results will be able to help other subdivisions generate substantial profit.
The farms, mills, apiary, cowshed, plantations have similar functionality as production subdivisions. The only difference is that instead of equipment you will have to handle livestock. You will have to buy forage from suppliers—either from your own companies or from other participants of the simulation. The aim of keeping the cowshed could be cattle breeding or production of raw meat and milk, which could be delivered to your own stores or sold to other participants.

Examples of required forage and products produced in cowsheds:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization</td>
<td>Livestock</td>
</tr>
<tr>
<td>Cowshed</td>
<td>24.0 pcs.</td>
</tr>
<tr>
<td>Milk farm (grain)</td>
<td>24.0 pcs.</td>
</tr>
<tr>
<td>Cow breeding (potatoes)</td>
<td>30.0 pcs.</td>
</tr>
<tr>
<td>Milk farm (potato)</td>
<td>30.0 pcs.</td>
</tr>
<tr>
<td>Cowshed (potatoes)</td>
<td>30.0 pcs.</td>
</tr>
<tr>
<td>Cow breeder</td>
<td></td>
</tr>
</tbody>
</table>

If you opt for delivering your production to your own stores, we recommend practicing on agriculture enterprises. The production chain in such subdivisions are normally shorter than in motor manufacturing business for instance.
Fitness centers, hair salons and laundry services are suitable for those, who is doing their first steps in the simulation. These particular enterprises do not require dealing with suppliers, but instead there is a need to select the right location, equipment and hire qualified staff. There is also one specific factor: there no computer-generated competition - business owners will have to compete with other participants like themselves.

Gas stations are very similar to the stores. You will have to purchase wholesale gasoline and sell it at retail prices.

Restaurants and medical centers are also considered service sector businesses in the simulation. They require purchasing consumables, evaluating their price and quality correlation. It takes several game turns to build medical centers, other service sector businesses are rented, which means they can be opened in one game turn.

Example of the «Supply» function of the restaurant:

Prices and location
The factors as prices and locations are the most important in service sector. If your competition has lowered the prices on their services, you will need to take urgent measures and experiment with different production costs, specializations and location of your business.

The service quality level
To increase your qualification and, as a consequence, management skills and performance, it is important to maintain a high level of service, which, in turn, depends on the quality of equipment and employees.

The uniqueness of service
The more unique your service is, the more visitors you attract. Your service business is unique in case you are the only one offering services in the market. If there is competition, the uniqueness of your services is, naturally, decreases. Try to establish your service sector business in those markets, where there is no competition. Or choose the specialization, which has not been used yet. This will allow you to generate profit.

Consumables
Pay attention to the quality of the consumables in restaurants and medical centers. They affect the visitor traffic and, as a consequence, profit of your business.
**Mining** allows the controlling of the initial stage of raw material production. A, consequently, its quality and prime costs. Natural resources can be either sold to other participants of the simulation or delivered to your own factories.

**Power industry** is a specific type of business in the simulation. It is rational to open power plants only in the case if there is a lot of time devoted to the simulation (long-term study course, for example). You can control the quality of the raw materials (oil, coal) if you own a huge manufacturing empire that is able to process all that.

Example of the oil-fired power plant functionality:
**When warehouses are useful**

Normally, every store and factory have their own warehouses. So opening warehouses as a separate subdivision is useful in case you manage a huge business empire with several factories of one specialization, which use the same raw materials. Therefore, it is necessary to purchase these raw materials. You can arrange it, so all the purchases are delivered to one warehouse, from where the supply will be delivered to factories.

Similarly to the finished goods: it is possible to supply them from different factories to one warehouse and form there deliver them to various stores. This will save time in managing raw material.

Besides, warehouse are very useful in case of the supply contract cancellation or negative price changes.

**Warehouses** are necessary for storing supply or raw materials. Every warehouse has its own purpose and specialization (for storing oil, chemical, manufactured products, etc.). You can select the specialization of your warehouse.

When opening a warehouse, consider its size, location and specialization. For example, opening a warehouse on Cuba when your factories or stores are located in Liverpool is not a good idea because of logistics expenses.
When your store has started generating stable profit, naturally, you will want to expand your business and look for other business opportunities. You can expand your retail network, by opening new stores or you can establish a **vertically integrated company**. In Fast realm, for example, the following supply chain is needed to produce motorcycles.

The key element here is steel production, which is vital in motorcycle and engine and wheel production.

In Fast realm, Intensive format it takes at least 10 subdivisions to establish a complete chain from mining to selling finished motorcycles.

In Virtonomics Classic realms, however, it will take dozens of subdivisions, since the range of products and industries is much bigger.

**Analyzing the data and supply chain planning**

If you want to know what it takes to produce any type of products, click on «Analytics» > «Reference».

There you will learn about the types of enterprises, raw materials and finished goods. Select the product of your choice (e.g., the same motorcycle in the „Trade“ tab). The system will give you information on the required raw materials and the type of enterprises needed to produce it.

Select the subdivisions that you will need. Conduct the price and quality analysis of your competition. Plan the necessary production volumes. Keep in mind that it takes time (game turns) to build certain types of enterprises (plants, for example).

Bear in mind that building a vertically integrated business can be done gradually, step by step, level by level.

It also takes three subdivisions, which will be responsible for coal and ore mining as well as oil extraction. Several factories will be needed to produce rubber, tires, engines, accessories and, eventually, the motorcycles themselves. Ideally, every subdivision of your company should be profitable, and it is quite an achievement if you manage to make your vertically-integrated company profitable as a whole unit.
Virtonomics has the function, which can accelerate certain business indicators by means of business boosters, like opening parking spaces, launching ERP business management systems, integrate quality control, increasing energy efficiency, etc. Every business booster has its own price, service costs and validity.

### Business boosters for stores:

- **Price**: $200,000  
  - **Service**: $20,000  
  - **Name**: Car park  
  - **Expires in**: 180 weeks  
  - **Description**: This comfortable car park next to your store will increase its attendance by +50%.

- **Price**: $1,000,000  
  - **Service**: $50,000  
  - **Name**: Car park  
  - **Expires in**: 180 weeks  
  - **Description**: This comfortable car park next to your store will increase its attendance by +50%.

### Business boosters for factories:

- **Price**: $100,000  
  - **Service**: $100  
  - **Name**: Solar cell batteries  
  - **Expires in**: 365 weeks  
  - **Description**: Installing solar panels will reduce your energy costs. Result: energy costs -50%.

**Activating business boosters**

Go the main page of a subdivision. Click on the buttons on the top of the page. (see pictures). Select the ones that would match your enterprise and would be effective in accelerating your business.

For example, if your qualification in management is quite high, but your store still cannot attract high traffic of customers (although the size of your store is good, the ad campaign is effective, but the store efficiency is still not 100%), so it is better to invest in convenient parking space rather than in installing EPR system.

**Information on business boosters**

Information on business boosters is available by clicking on «Analytics » > «Reference», «Business boosters» tab.
For reports of your company click on «My company» > «Reports». There are a lot of different types of reports. Financial reports, for instance, show the financial indicators of your company: revenues, expenses, profit, indicators based on regions, subdivisions, products, etc. There are marketing, warehouse, movement of goods reports as well as technology and mineral deposits reports. You can also see the reports of each subdivision of your company in «Financial report» tab.

A sample of a financial report of the store, which has been opened only few game turns before:

### Revenues and expenses

<table>
<thead>
<tr>
<th>Date</th>
<th>Revenues</th>
<th>Expenses</th>
<th>Profit</th>
<th>Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 January</td>
<td>6 290</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8 January</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 January</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25 December</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Sales by products

- Sausages: £3 272.00 (52.02%)
- Oil: £1 654.00 (26.29%)
- Meat: £474.50 (7.54%)
- Bread: £239.00 (3.80%)
- Potatoes: £236.50 (3.76%)
- Milk: £231.65 (3.68%)
- Sugar: £158.08 (2.51%)

Your money balance is seen together with your name in the top corner of the homepage:

Evgenii Andreev
£1 982 844.66
**Types of reports**

**Financial reports:**
- Graphic.
- By items.
- By regions.
- By industry.
- By products.
- By subdivisions.

**Marketing reports:**
- Promotions.
- Brands in the cities.
- Stores assortment.
- City retail.
- Service sector.

**Movement of goods:**
- Purchases by suppliers.
- Purchases by products.
- Sales by consumers.
- Sales by products.
- Inventories.
- Industry.
- Monitoring of various sales.

**Mineral deposit:**
- Information on all your company’s mineral deposits.

**Technology:**
- Reports on license and technology sales.

**Warehouse report:**
- Information on all warehouses of your company

### A sample of warehouse report: locations, sizes, supply, occupancy:

<table>
<thead>
<tr>
<th>City</th>
<th>Subdivision</th>
<th>Size</th>
<th>% Occupancy</th>
<th>Expenses</th>
<th>Resources</th>
<th>Products</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>Metro Store</td>
<td>100 sq.m.</td>
<td>55.83%</td>
<td>19.66</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Spain</td>
<td>Apparel Store</td>
<td>100 sq.m.</td>
<td>0.24%</td>
<td>0.65</td>
<td>0.00</td>
<td>-0.31</td>
<td>-0.31</td>
</tr>
<tr>
<td>Spain</td>
<td>Grocery Store</td>
<td>100 sq.m.</td>
<td>0.16%</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.39</td>
<td>-0.39</td>
</tr>
</tbody>
</table>

### A sample of income statement report:

<table>
<thead>
<tr>
<th>Item</th>
<th>Week</th>
<th>Previous</th>
<th>Month</th>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product sale</td>
<td>21 240.26</td>
<td>0.00</td>
<td>21 240.26</td>
<td>21 240.26</td>
<td>21 240.26</td>
</tr>
<tr>
<td><strong>Variable costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product purchase</td>
<td>5 000.00</td>
<td>0.00</td>
<td>5 000.00</td>
<td>5 000.00</td>
<td>5 000.00</td>
</tr>
<tr>
<td>Transport cost</td>
<td>59.20</td>
<td>0.00</td>
<td>59.20</td>
<td>59.20</td>
<td>59.20</td>
</tr>
<tr>
<td>Customs duty</td>
<td>1 250.00</td>
<td>0.00</td>
<td>1 250.00</td>
<td>1 250.00</td>
<td>1 250.00</td>
</tr>
<tr>
<td>Salary</td>
<td>7 664.25</td>
<td>0.00</td>
<td>7 664.25</td>
<td>7 664.25</td>
<td>7 664.25</td>
</tr>
<tr>
<td>Energy costs</td>
<td>20.86</td>
<td>0.00</td>
<td>20.86</td>
<td>20.86</td>
<td>20.86</td>
</tr>
<tr>
<td>Storage</td>
<td>36.36</td>
<td>0.00</td>
<td>36.36</td>
<td>36.36</td>
<td>36.36</td>
</tr>
<tr>
<td>Profits tax</td>
<td>1 455.02</td>
<td>0.00</td>
<td>1 455.02</td>
<td>1 455.02</td>
<td>1 455.02</td>
</tr>
<tr>
<td><strong>Fixed costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General production</td>
<td>1 750.88</td>
<td>0.00</td>
<td>1 750.88</td>
<td>1 750.88</td>
<td>1 750.88</td>
</tr>
<tr>
<td>Facility rent</td>
<td>20 933.60</td>
<td>0.00</td>
<td>20 933.60</td>
<td>20 933.60</td>
<td>20 933.60</td>
</tr>
<tr>
<td>Management expenses</td>
<td>217.42</td>
<td>0.00</td>
<td>217.42</td>
<td>217.42</td>
<td>217.42</td>
</tr>
<tr>
<td><strong>Investments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building and modernization</td>
<td>2 504.00</td>
<td>0.00</td>
<td>2 504.00</td>
<td>2 504.00</td>
<td>2 504.00</td>
</tr>
</tbody>
</table>
The following strategic roadmap will be your guide in Virtonomics world. Select your business development direction depending on what company you received or selected at the beginning of the game:

**A small-sized company functioning only in one city**
A horizontal business development strategy to enter other regions will require the least amount expenses. However, in this case you will depend heavily on the suppliers. Although vertical development requires a lot of money and time investments, your manufacturing enterprises will be of a greater capacity.

**A company on a regional scale**
Most likely, the scale of the business will allow you to launch the production and research or even mining and processing. Expanding to other regions while having a well-developed production business is an excellent solution as well.

**Local company (with branch offices within one country)**
Intensify the vertical integration of the company through the development of production and mining, by expanding to other regions. Invest in research, raise the technological level of your production business, and reduce the expenses. Make sure you have a solid foundation for entering other markets.

**International corporation**
Diversify your business by countries, products, and target segments. Work on improving all business processes, control the expenses. Strive to be one of the top 3 companies in the markets, where you operate.
Your employees work on oil rigs, factory machines, offices, stores, laundry services, hair salons. In order to manage your employees, go to «Employees and salary» on the main page of the enterprise.

Key factors in HR management:
- **The required number of employees** depend on the size of the enterprise, the number of equipment units. The system will give hints on the number of required employees.
- **The required qualification** depend on the education level in the city and the equipment level: the higher the technological level of the equipment is, the more qualified employees are required.
- **The salary** should be based on the city average and the required qualification.

If you manage a huge international corporation, you will find the automated HR management function very useful. It will save your time, by adjusting the salary every game turn based on the qualification and technological requirements.
The marketing process in the simulation is based on a popular 4P concept:

<table>
<thead>
<tr>
<th>(Product)</th>
<th>The product must be in-demand in the market and have attractive price, quality and brand. Before launching a new product or starting a manufacturing business, conduct a detailed analysis of your competition, the average city price, best price offers, quality and brand. There are competitors in the market, compete with them, so you will have an advantage over them in at least one of these parameters. If the product is new to the market, then you have a lot of room for experimenting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Price)</td>
<td>Price is one of the most important factors. It is responsible for the overall product perception by the customers together with quality and brand. As like in real life, the prices in the simulation can change with every game turn, since the virtual economy is created by the actions of thousands of users worldwide. Pay attention to price changes and new significant competitors. Experiment with prices.</td>
</tr>
<tr>
<td>(Place)</td>
<td>Location is a very important factor for certain subdivisions. For example, if you plan to work with VIP customers and offer them high-quality goods of high-end brands, the store should be located in the city center or trendy neighborhood. The qualification of employees and their ability to provide quality service to all visitors are also important.</td>
</tr>
<tr>
<td>(Promotion)</td>
<td>Advertising helps sell the products. Depending on your targets, the advertising campaign can be focused on promoting the product or subdivision: <strong>Advertising the product</strong> — massive ad campaigns. They are implemented in the offices (see «Advertising» tab) and is working in the whole region, where the office is located. Such campaign influence the «Brand» category of your product. <strong>Advertising the subdivision</strong> — local advertising campaigns. They are set in a specific subdivision of your company (e.g. store) in order to increase the popularity of the product and customer traffic of that particular store. You can find more information on advertising in Virtonomics in chapters «For new users» &gt; «Advertising». Apart from advertising campaigns, we recommending using business boosters, which are able to enhance the promotion of your products and subdivisions. You can choose them on the homepages of subdivisions.</td>
</tr>
</tbody>
</table>
If your company has stores, warehouses, farms, health centers or factories, collaborating with suppliers and purchase planning will be an important part of managing your company. Things to consider:

- Selecting one or several suppliers. You can order from several suppliers, it will reduce the risk of delivery failure (suppliers can change the conditions of the contract, deliver less than ordered and even terminate the contract). However, in this case, the purchase price may be slightly higher. Instead you can focus on ordering supplies from the supplier, who offers the best price. However, in case of delivery failure, you risk to be left without the supply in the next game turn.
- To ensure the supply for large enterprises, the purchasing of seasonal agricultural products can be integrated into the supply chain of warehouses. Storing these products will help you balance out the supply. However, in this case you a certain amount of money is frozen.
- Such indicators as price, quality and brand tend to change. Check them regularly to make sure you are buying the best offer. Also, new suppliers with more attractive offers may appear on the market.
- Every store and factory has its own warehouse. They can be used to store the goods. However, pay attention to the occupancy percentage.

A contract sample of potato supply to the store:

Bear in mind the following factors:

- The supply of potatoes at the same time from two suppliers. The conditions of the contract are set for an automatic termination in case of quality drops below the set minimum or the price increases more than 10%.
- The second supplier received an order of 20,000 units (the maximum amount of units the supplier can deliver is no more than 30,000 per one game turn). Currently the supplier has 16,096 of available units. In other words, the conditions of this particular contract are not entirely met.
Production is a very exciting option in Virtonomics. With a vast choice of available industries, you can establish a huge vertically-integrated company with its own supply chain. The finished goods are sold to the enterprises of real participants of the simulation.

For high quality production you will need: high level of technology (see factory’s «Technology» tab), equipment based on the technology requirements (purchase of equipment is done on the homepage of the factory) and employees and appropriate qualification. The system will gives hints on the required level of equipment and employees. You will also need the right amount of raw materials. If you strive for a successful production business, make sure you have all these requirements are met.

A sample of motorcycle production report:

Take a closer look at the following factors:

- Before the production processes started there were 55 motorcycles of 5,73 with prime cost 839,34 available at the warehouse. Every game turn the factory produces 5 motorcycles of 2,46 quality with the prime cost of 9222,72. When newly produced motorcycles will be transferred to the warehouse for sales, their quality will be the average of the two. It will happen every game turn. Bear in mind the quality of the newly produced goods when setting the selling price.

- The conditions of the contract state that the motorcycles can be sold to any customer. There 55 units available for delivery, but the maximum purchase volume, however, is 5 units. This will ensure the availability of the products in the warehouse. The occupancy of the warehouse is less than 2%, which means that there is enough of space at the warehouse, and you will not need to use external warehouses.
The customers of a retail business are computer-generated. Customers can purchase products in retail stores, gas stations, etc. buy services in laundries, hair salons, medical centers, etc. All other customers, who buy raw materials, finished products are real participants of the simulation.

Example of the dynamics of sales in the store:

One game turn in Virtonomics equals to one week. The figure shows that the quality of the period increased by almost two times, the price remained the same, but the sales, dropped from 1 000 to 500 units. It happened, most likely, because, all available products in one game turn are selling out very quickly. Therefore, you need to increase the volumes of supply experiment with increasing the prices.
The technology level of an enterprise (just like the qualification of the employees, equipment and raw materials) has a huge influence on the production quantity and staff efficiency. The technology level can be improved by conducting research in laboratories, buying licenses and technologies.

Every method has its own specific nuances. For example, the process of conducting your own research will take time, but eventually you will be able to implement a new technology or sell it to other participants. Although the purchasing of a license or technology is the fastest way to improve the technology level, you will need to pay for it right away. The licenses normally cost less than technologies. But licenses are implemented only in one enterprise, whereas technologies can be implemented in all enterprise of the same type.

A sample of technology implementation prices of 1, 2 and 3 level at a pet food factory:

<table>
<thead>
<tr>
<th>Technology level</th>
<th>Technology cost</th>
<th>Cost of introduction</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>$0.00</td>
<td>$52 020.54</td>
<td>$52 020.54</td>
</tr>
<tr>
<td>Level 2</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Level 3</td>
<td></td>
<td></td>
<td>$13 360 574 074.07</td>
</tr>
</tbody>
</table>

Example of license purchase application:

Select the required level of technology and the maximum amount you are willing to pay for a license.

The competitive application is when the price that you offer does not exceed the given price, not competitive – average market price. In this case, it can be any price, but the purchase opportunity increases.

The applications are processed during the game update.
There is some sort of **equipment** in any type of enterprise: computers (offices), machines (factories), work-out equipment (fitness centers), trawlers (fishing bases), research equipment (laboratories), etc. The equipment is selected based on the technology level of your enterprise. High technology levels require high quality equipment. While, the quality of the equipment depend on the qualification of your employees.

Equipment tends to wear out due to constant exploitation and needs to be repaired. Go to «**My company**» > «**Management**» to manage the equipment in all your company.

If you have an equipment auto repair function in your enterprise, the system will monitor the condition of your equipment every game turn and automatically repair it if needed.

You can set the replacing equipment quality and price range.

It is also possible to set the supply of equipment from your own subdivisions (in case they manufacture the required equipment).

There are equipment buying, repairing and removing functions on the home page of each enterprise. («**Equipment**» and «**Automatic repair**»):
At the beginning of the simulation, you will always receive a certain amount of money. The amount can vary, but they are necessary to maintain your company’s processes and open new subdivisions.

The amount of your money funds is indicated on the top of your company’s homepage. It is always visible whenever you perform any actions in the simulations (purchasing supplies, hiring employees, etc.)

Factors to consider when managing the money funds of your virtual company:

- Cash inflow and outflow. Some operations are calculated during the game update and some are calculated instantly.
- Carefully assess your business development expenses or improving the technology level.
- Pay attention to the available stocks of raw materials and finished products at your warehouses. On one hand, they ensure the stability to your business. On the other hand, your money are tied up in those stocks when they could be invested into your company’s growth. Find the right balance between stability and business development.
- Your company’s account is replenished by company profit.
- In case of the shortage of money, you can sell some of your businesses at an auction. But it may take some time, and you cannot be certain how much money you will be able gain. The process of selling the business should be planned beforehand, a few game turns before.
- If the money balance of your company is negative for more than 10 consecutive game turns, your company is declared bankrupt. In this case, the management function of your company is stopped, and the company is put up for sale. If the company recovers after the sale of some of the businesses and the money balance is positive again, the management function is restored.

There are a lot of reports on the financial situation of the company as a whole and its separate subdivisions. You can find them by clicking on «My Company» > «Reports» in the «Financial report» tab on the homepage of each separate subdivision.
The world map in Virtonomics is identical to the real geographical map. The only difference is the number of available countries in Virtonomics. There are 5 countries in Intensive format and 36 in Classic. You can see the Virtonomics world map by clicking on «Analytics» > «Macroeconomics».

General information on the countries includes the number of cities, population and tax rates. For the detailed information on the cities (population, average salary, unemployment rate, education, etc.) select the country or a region:

<table>
<thead>
<tr>
<th>Country</th>
<th>Total area of the land</th>
<th>Population</th>
<th>Number of cities</th>
<th>Tax rate</th>
<th>Heads of States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>3.76 million km²</td>
<td>82.4 million</td>
<td>14</td>
<td>25%</td>
<td>Chancellor</td>
</tr>
<tr>
<td>President</td>
<td>there is no head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>17.87 million km²</td>
<td>157.1 million</td>
<td>54</td>
<td>18% - 41%</td>
<td>President</td>
</tr>
<tr>
<td>President</td>
<td>there is no head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Island</td>
<td>0.51 million km²</td>
<td>46.0 million</td>
<td>10</td>
<td>30%</td>
<td>Prime Minister</td>
</tr>
<tr>
<td>President</td>
<td>there is no head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td>0.60 million km²</td>
<td>16.2 million</td>
<td>17</td>
<td>22% - 36%</td>
<td>President</td>
</tr>
<tr>
<td>President</td>
<td>there is no head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States of America</td>
<td>9.52 million km²</td>
<td>321.3 million</td>
<td>26</td>
<td>35% - 42%</td>
<td>President</td>
</tr>
<tr>
<td>President</td>
<td>there is no head</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Demographic situation in cities

Every city has its own demographic profile. An example of Ivanovo (Russia):

312 tbs.

Employment types:
- Employees at the enterprises owned by other participants
- Employees at computer-generated enterprises
- Civil servants
- Non-working population
- Unemployed

Employment types:

- Employees at the enterprises owned by other participants
- Employees at computer-generated enterprises
- Civil servants
- Non-working population
- Unemployed

Macroeconomics, market indexes and competition
City indicators

The main factors

When selecting a city to start your business, pay attention to the following factors:

- **Population** — it gives an overview of the potential market size.
- **Average city salary** — the level is normally higher in bigger cities.
- **Unemployment rate** — on one hand, high unemployment reduces the market potential. On the other hand, the unemployed can easily become your employees.
- **Education level** — abstract indication of average employee qualification in the city.
- **Wealth level** — abstract indication of population’s buying power in the city. It is calculated correlation of city population and the size of retail market.

There is archived information on key indicators in every city:

Additionally, there is data on rent costs, renewable resources (agricultural products, wood, etc.) and seasonal variations.
Taxes and fees

Just like in real life, the virtual companies in Virtonomics have to pay certain taxes and fees:

- **Custom duties** — are applied in export and import operations. Their rates depend on the product / raw material.
- **Income tax** — the main tax. Applied in trading (wholesale, sales of products produced by your factories, sales in stores), and services. The income tax rates vary according to region. The dividends are transferred according to the game update.
- **CTIE rates** — a minimum tax deduction sum; applies only to production subdivisions. It is deducted only when the products were sold at a price lower than their prime cost or if the enterprise’s income is lower than the income tax rate. In all other cases the income tax is applicable. The tax rates vary based on regions.
- **Technology and licenses sales tax.** 7% rate.
- **Property sale tax** (when selling subdivisions). 10% rate.

The information on the taxes and fees that are applied in Virtonomics virtual world can be found by clicking on the «Analytics» > «Macroeconomics» tab.

A sample of customs duties on export and import in Russia (select the country and click on the «Custom duties» tab):

![Custom duties table]

Information on the tax rates in a specific region of the country (Russian Far East). Select the country and click on «Region».

![Region information table]

A sample of CTIE rates in Central Russia (select the region and click on the «CTIE rates»):
Just like in real life, the shipping of products in Virtonomics cost a certain amount of money. The information of shipping costs are available by clicking on «Analytics» > «Macroeconomics», select the «Transport» tab. Select the product category and the departure city:

Energy tariffs of certain regions of the country or the whole country can be found by clicking on «Analytics» > «Macroeconomics», just select the required country or region.

The rent costs of the cities by clicking on «Rent»:
Wood, agricultural and fishery products are the renewable resources that vary according to each city. Production of certain resources do not depend on seasonal variations (wood manufacturing or pearl fishing, for example). However, agriculture business depend heavily on seasonality.

A sample of harvesting calendar in specific cities:

The seasonality is depicted in crop cultivation reports:

Just like in real life, growing certain crops strongly depend on geographical aspects. Each renewable resource depend on certain environmental conditions and geographical location. (You cannot grow coffee in Norway, for instance).
For market analysis click on «Analytics» > «Market Analysis». The information on market situations is categorized based on the following sectors:

- Retail market reports are one of the most important in the simulation. It includes information about the consumer market: products price and quality, market maturity and capacity, key players, etc. The information can be filtered based on specific geographic location that will help assess the selling potential of your product.

A sample of underwear market report in Russia:

Local suppliers offer the product with a quality little higher than a unit at a price of about 1400. The market leader offers the product of a high quality (about 78) at price of 700. The products offered by another player are of a quality about 30 and price of 230. Both offers are clearly more attractive than the market average (the price is lower, whereas the quality is higher). Use this information as a guide before launching a product.
For detailed market and competition analysis select the city of your interest. You will receive information on key indicators.

A sample of detailed underwear market report in Moscow:

Sample report analysis

Competition on the market is moderate - the development index is "E". Approximately 2/3 of the market belongs to local suppliers - computer shops and the stores, which offer products on the market, since there are no real participants with such offers. Just over a third of the market is controlled by a real participant.

The market volume is stable and has not drastically changed. The products' brand is zero.

There is a positive trend in quality and price dynamics in local stores. It is a reaction to the actions of a real participant, who has entered the market with a product of a higher quality and price. Local suppliers have also begun to raise the prices and quality of their products to remain competitive.

Competitions assessment

You have the opportunity to see the behavior of your competition. Click on the subdivision of your competitor in the competition report (in the example of the report "store") or just a company name ("uniquai"), in the second case, you will see the whole list of subdivisions of your competitor.
**Competition analysis: products, sales, enterprises**

**Competition assessment**

The store is of the biggest size possible - 100 thousand square meters. It specializes only in selling clothes and shoes (there's only one department).

The store is of an elite service level, which means that the number of employees and their qualifications are of a relevant standard, the size of a trade hall meets the customer traffic flow.

In order to increase the traffic, you can select the following options:

- Parking. One of the business boosters (available on the store's homepage).
- Advertising campaign

The store offers a wide range of products. The products that sell the most are the ones with a price higher than market average, their quality is also significantly higher than city average.

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Select the competitor of your choice in the «Market Analysis» tab. You will see the whole list of their enterprises. By clicking on a specific enterprise you will see a detailed report of its activity.

---

**Subdivision of a company uniquai**

<table>
<thead>
<tr>
<th>Location</th>
<th>Moscow (Russia, Central Russia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City district</td>
<td>City center</td>
</tr>
<tr>
<td>Trade area</td>
<td>100 000</td>
</tr>
<tr>
<td>Number of departments</td>
<td>100</td>
</tr>
<tr>
<td>Popularity</td>
<td>$47.26</td>
</tr>
<tr>
<td>Number of visitors</td>
<td>about 1 000 000</td>
</tr>
<tr>
<td>Service level</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
<th>Sales volume</th>
<th>Quality</th>
<th>Brand</th>
<th>Sale price</th>
<th>Market share</th>
<th>city average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothes and shoes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bag</td>
<td>over 10 000</td>
<td>52.11</td>
<td>2.72</td>
<td>$2 900.00</td>
<td>0.63 %</td>
<td>$605.64</td>
</tr>
<tr>
<td>Hat</td>
<td>over 100 000</td>
<td>66.97</td>
<td>2.72</td>
<td>$455.00</td>
<td>4.85 %</td>
<td>$195.74</td>
</tr>
<tr>
<td>Jacket</td>
<td>about 5 000</td>
<td>43.70</td>
<td>2.72</td>
<td>$18 500.00</td>
<td>0.97 %</td>
<td>$2 263.02</td>
</tr>
<tr>
<td>Jacket</td>
<td>about 100 000</td>
<td>66.97</td>
<td>2.72</td>
<td>$450.00</td>
<td>3.11 %</td>
<td>$209.28</td>
</tr>
<tr>
<td>Jacket</td>
<td>about 100 000</td>
<td>51.47</td>
<td>2.72</td>
<td>$2 200.00</td>
<td>5.52 %</td>
<td>$700.05</td>
</tr>
<tr>
<td>Shirt</td>
<td>about 50 000</td>
<td>60.81</td>
<td>2.72</td>
<td>$1 500.00</td>
<td>1.33 %</td>
<td>$365.04</td>
</tr>
</tbody>
</table>
A useful report on market structure and the key players is available in «Analytics» > «Market Analysis» > «Sales volumes». Just click on any competitor to access the information about their company.
Navigating the market

Service sector market reports are based on specific service sector specializations and geographical locations.

The reports contain information on key players and market structure based on competitors’ specializations and geographical locations of their enterprises.

The report also includes the data on market size and average prices.

Below the graph, there is detailed information on your competitors. You will be able to access the company or enterprise report of your competitors.
Production reports are available by clicking on «Analytics» > «Market analysis» and selecting the «Production» > «General report» tab. Select a product category and the product.

A sample of Red Bull production report:

The information on the market structure and key competitors is available in «Production» > «Today»:
Information on the types of enterprises, product, raw materials and production type, trade and business boosters is essential in business management in Virtonomics. The information can be found by clicking on «Analytics» > «Reference».

For example, this data will inform you what raw materials are necessary for the production of aircraft fuselage parts, the duration of construction of such factory, how many product units can be produced in one game turn:

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Equipment</th>
<th>Raw material</th>
<th>Products</th>
<th>Quality modifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuselage section</td>
<td>17 400 pcs.</td>
<td>3 000 pcs.</td>
<td>3 000 pcs.</td>
<td>3 000 pcs.</td>
</tr>
<tr>
<td>Wing elements</td>
<td>27 000 pcs.</td>
<td>2 000 pcs.</td>
<td>9 000 pcs.</td>
<td>2 000 pcs.</td>
</tr>
<tr>
<td>Empennage elements</td>
<td>7 000 pcs.</td>
<td>5 000 pcs.</td>
<td>1 500 pcs.</td>
<td>1 pcs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>10000 workplaces</td>
</tr>
<tr>
<td>25000 workplaces</td>
</tr>
</tbody>
</table>

By clicking on the component or raw material, you will see the information on what is needed to produce them. It is vital information for planning to establish a vertically integrated company.
Virtonomics has a **messaging system**, which allows participants to communicate with each other. You can use it to make contact other participants to sign contacts, negotiate price conditions, etc.

In order to send a message click on the company of your interest. You can also do that by clicking on «Analytics» > «Market Analysis», select the company and click on «Contact president»:

Enter the subject and the content of your mail:

```
Hello!
I would like to make a long-term contract with you. I am interested in buying 100,000 units of coffee every turn. If it is possible I asking for 15% discount of your current price.
```

Click on the letter icon at the top of your page to access your messages: