

An examination of the efficiency of logistics processes at STI Hungary Kft

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Abstract: Logistic processes are integral parts of commercial processes. Logistics, being one of today's most dynamically developing business sectors, brings new challenges and opportunities to us. To aim for efficiency in logistical processes and their management is therefore essential, and the limit is the sky. Thanks to the continuous technological innovations and the ability to change, we can realize a great deal of performance improvement which determines the proper functioning of the entire corporate system. Recognizing this possibility, the Germany-based S.T.I. Hungary Kft. asked for our assistance to look at the company's processes as an external viewer, so they can change their processes and the efficiency of their systems with the help of our knowledge and suggestions. We detail this research and some of its results in our study, showing that with some simple organizational changes and standardized performance indicators, not only the image of the company will be more realistic and more accurate, but we can realize profit as well.

keywords: logistics, efficiency improvement, organization development, BPR

1 Introduction

Most of our business departments in our company rely on the efficiency of logistical processes. Managing these processes require a huge amount of work time due to the value it can add to products or services. One of the main goals of companies is the increasing of effectiveness in order to offer high quality products and services and reducing production costs and time. [7] Improving business processes can lead to more efficient working and higher profit. Customer, worker and business owner satisfaction increase can be achieved this way as well. Despite these opportunities, there are only few company leaders who decide to ask for external help to reorganize their workflow. This is can relate both to workers and leaders getting used to their daily routine, which means they could hardly realize additional potentials or change their methodology. The study highlights on the significance of business improvement by detailing our work with a logistical company suffering form different issues. Our advices and the work of their experts may lead the company to realizing bigger profit, working more effective and improving their key performance indicators.

The examination starts with the theoretical approach of improving efficiency and then the study details how it could help STI Hungary in practice. Combining our knowledge and the expertise of STI workers we were able to achieve the goals we set up at the beginning. During months of work we discovered every small details inside the company and issues need to be get over. We describe this work and the results in our study below.

2 Logistics

Logistic services are not related to modern business, logitic processes were very imporant in ancient times. Improving agriculture and the industrial revolution requiried goods to reach the manufacturers as soon as possible [16] These demands and fast development of technology helped people using better and better tools in order to work more efficient and be more profitable by making transporting easier. Although this can only be achieved by properly working organizations.

According to the Swiss Federal Institute of Economics Research (BWI), corporate logistics is a set of cross-border tasks that rely on corporate purpose and the resulting measures to ensure optimum material, information and value flow in the company's transformation process. [5] Lajos Kormendi described "the shortest and most frustrating" definition as the science of supply. [8] Donald Waters examines a process within a given organization. According to him, the range of activities and companies that move materials between these stations together form a supply chain. [13] Based on the experience gained in the above definitions and our study,

our logistics in the business sphere is as follows: Logistics is the branch of business processes that allows the flow of information and goods from their starting point to end-use, with the smallest effort to maximize the company's results and customer satisfaction. Supply chain management is a comprehensive management of these processes.

In order to function properly, we can find many models. For example, the well-known 5M model or the 7M innovations are in line with the right consistency, with the release of the right product delivery, or the later 9M, which also pays attention to the economy and the information. [2] Of course, the most important aim is making profit. It also depends on the efficiency of their operation. The success of a successful company is strategic thinking, customer focus, efficiency gain, innovation, and ability to change. [11]

In order to function properly, we can find many models. For example, the well-known 5M model or the 7M innovations are in line with the right consistency, with the release of the right product delivery, or the later 9M, which also looks at the economy and the information. [2] Logistics companies are of course one of the most important goals of profit making. It also depends on the efficiency of their operation. The success of a successful company is strategic thinking, customer focus, efficiency gain, innovation, and ability to change. [11]

The financial performance of a company is evaluated, monitored and possibly improved by leaders of many areas. For example, current and potential owners, company managers, so management, current and potential creditors of the company, and often the company's rivals [3]

Unfortunately, in case of Hungarian companies, the support of operative decisions has to be put in the background, and corporate IT professionals do not use the IT system. Likewise, no such device is used for performance measurement. [14] To help re-think existing processes and rationalize corporate processes, companies do not take advantage of IT opportunities. [9] Modern management is not only responsible for competition calls today, but also needs to be flexible while maximizing profits. [15]

According to Huq, the main cause of BPR errors is a fragmented approach to changing corporate processes. Managing corporate processes in a unit and context helps to create optimal regulation and alignment with the IT system. [6] The activities of BPR are not tasks or activities, but rather the results. This also determines the scope of its application. [4]

The company's time spent on actual production ranges from 5 to 25%. So, a significant part of the working time is taken up by complementary activities such as information flow and processing, control tasks, material handling, or transport, storage. [12] In case of a logistics company where these activities are mostly the core activity, we might think that this ratio is much more efficient. However, experience shows that this ratio can not be changed regardless of the company's

profile. That is why, for the attendance of customers as much as possible and for the satisfaction of management, it has a role of reviewing and streamlining the processes for a logistics company. [11] As the competition of market is high enough in this area, the price competition does not spare the logistics provider either. Improving efficiency as a profit-enhancing factor also plays an important role in these companies. So the factors of company efficiency are logistics, quality assurance, productivity and competitiveness. [1]

The management of the company should identify the available data to help achieve preliminary results and make comparisons with earlier periods. Based on these analyzes, it is worth developing an action plan and a schedule for rationalizing corporate operations. [5]

Of course, after the transformation, it is necessary to compare the measured results with the previous values so that we can conduct further analyzes and see how the company has reached the target. [10]

2.1 STI Freight Management

The group of STI Freight Management is the member of the HAVI Logistics Group. For the coordination of ever-increasing international transport tasks between European suppliers and the HAVI distribution centers, today's STI company was founded in 1983, whose core business is the so-called "Pre-Freight" was the organization of shipping tasks between suppliers and logistics warehouses, based on the McDonald's quality assurance and food safety standards and principles. STI offices are basically based on HAVI infrastructure in all countries, mostly in an office building with shared financial and HR functions, that is, they work in close co-operation. In 2010, by creating the STI Freight Management group and integrating the various STI companies into the group of companies, they have made the company more efficient, professional and have become an important member of the European market in the international food logistics market. but only through European road traffic, but also through its headquarters in Germany, it performs significant overseas container and air freight forwarding and customs clearance tasks. Over the past five years, the company has started to develop significantly in new business areas alongside serving classic food industry partners. The German company carries out the European port service of the world's two largest tourist boat companies in strategic partnerships, with the specialty of meeting the virtually minute needs of transport requirements tailored to the schedules of the ships, and the Scandinavian and Hungarian organizations introduced a new branch of pharmaceutical logistics, international drug delivery and local clinical distribution services. In addition, all STI companies operate the so-called collection services to their region for their smaller transport volumes, so the network can provide full European coverage of up to 1-2 palletized volumes for controlled transport of air in any respect. The strategy of

the STI is to provide unique quality of service at an affordable price for its existing and future strategic partners through more efficient utilization of the European network's synergies and stringent quality standards. STI Freight Management currently operates 12 offices in 9 European countries with more than 220 employees, delivering nearly 285,000 freight per year. The Hungarian company, STI Hungary Kft. was established in 2005 and acts as an independent legal entity in the same way as the other STI companies and is directly under the control of STI Freight Management, so the headquarters of the group in Duisburg. In 2016, 13.500 completed freight missions, nearly 3.5 billion forints revenue was achieved in Hungary.

3 Research

The basic problem was, which we started our research, that the Hungarian office at the Duisburg center was not efficient enough. In order to solve this problem, we have been conducting organizational screening for several weeks, with a complete picture of the company's internal processes, the responsibilities of each department, its communication and organizational network. We learned the neuralgic points of the processes. In order to meet all of the possible situations of all staff members of each department, we have taken a condition survey at different times at different locations of the company. We fixed what tasks had conducted, how much time needed and who was involved from the staff. During the in-depth interviews, we were not only interested in the individual free opinion of the staff, but also on the presumed antecedents and possibilities of solving the problem recorded at the given workstation. During the screening process, we could get a complete picture of the company's processes.

3.1 The results of the STI screening

Based on the known states, we can say that we are dealing with a relatively straightforward linear organization in which the tasks are well separated, broken down into organizational units. Based on the in-depth interview we could distinguish the following jobs and task groups:

The chief executive / business development manager is primarily responsible for contacting clients, but he is also responsible for HR tasks and is responsible for arranging meetings. His/Her work time is largely on checking existing customers and searching for potential new customers. His executive duties are supplemented by the Operational Leader / Quality Assurance Officer. His tasks are mainly carriers' examination of the quality assurance section, and now he/she oversees and manages the operation. Both leaders have a very fragmented role, many of them are part of the task. Their daily work is very diverse. The HR tasks and

organization of corporate meetings are common tasks. This ongoing joint work also requires that they have a common office, since they have to provide information for almost every day for smooth work.

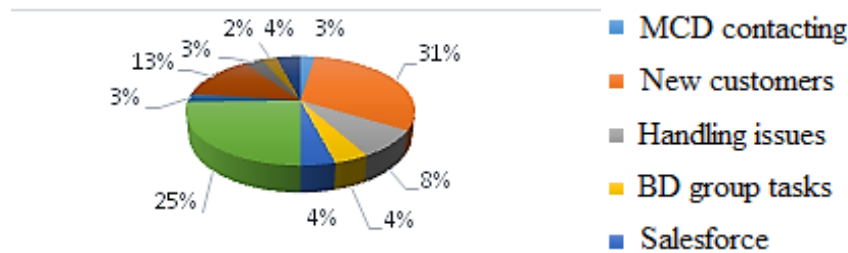


Figure 1 Time-proportional distribution of management tasks

61% of *billing* jobs are filled out by partners' outgoing casual and collecting bills, but he deals with archiving incoming bills, dealing with related claims and posting orders.

The *controller's* tasks are primarily, almost 40% of the annual and monthly reports are made by auditing, reports. At the same time, his job is to prepare business forecasts and audit duties, as well as the management of claims.

Freight managers, who account for a significant portion of the company's employees, represent half of them and perform the main business of the company, also perform a multitude of tasks. A quarter of their work is recordin into the IT system. 18% of their tasks are capacity searching on the market. In addition, their tasks include receiving all incoming orders, planning freights, issuing these to the company carrying out the carriage, and performing post-shipment verification procedures.

Paletta admin is a special position at the company. A freight forwarder who controls the movement of the pallet or the administrative work of the freight organizers. Its task is to check the accounts for pallets, in which you can notify customers about the possible palettes. Detects, organizes, and retrieves possible returns.

The *administration assistant* is responsible for receiving invoices, freeway assignments, support for operations and other archiving tasks. Fixing invoices and freight orders significantly contributes to the work of both the billing department and the freight organizer site.

STI measures the efficiency of individual offices by 5 different indicators that are sufficient to fully understand the strengths and weaknesses of a particular organization.

- **CostEfficiency:** Shows how much a worker works with regard to profiteering. The calculation is based on the ratio of gross profit and

admittance. The charge does not include costs beyond the normal operation. These may include, for example, costs of damage, local taxes and financial charges. The Hungarian office is in the midst of this number, since the wage cost of most of the administrative costs is favorable compared to western offices.

Table 1 Cost Efficiency

	Cost efficiency (Teur)
United Kingdom	221,5
Poland	212,6
Hungary	163,0
Spain	144,3
France	139,0
Germany	131,2
Sweden	128,4
Russia	104,0
Italy	77,5
Average	146,8

Source: authors

- **AdminEfficiency:** Shows the number of orders placed on an STI worker. This is the order number / FTE (Full Time Equivalent) ratio. FTE, as it means full-time workforce, can result in fractional values. It appears from the table that the Hungarian office is the last place, far behind the average value.

Table 2 Admin Efficiency

	Admin efficiency (order/capita)
United Kingdom	213,4
France	161,5
Sweden	142,8
Germany	141,5
Spain	140,1
Poland	128,9
Italy	124,2
Russia	89,4
Hungary	78,5
Average	135,59

Source: authors

- **FoodSafety:** Shows how well McDonald's Transport Security Policy has been met. As far as STI is concerned, it is the security measures required during carriage. These include: the choice of appropriate means of

transport and personnel, the delivery and documenting of the appropriate transport temperature during transport and transportation, the compliance of the seal specifications and the possible temperature complaints.

- **Delivery Reliability:** This number shows the proportion of complaints, in proportion to all orders that have been made. This includes, for example, improper behavior of a driver, use of a vehicle with an unauthorized advertising surface.
- **On Time Efficiency:** Shows the timely arrival of orders to suppliers and recipients.

It has become apparent that there are various problems that can be observed in certain indicators and in the organizational unit. Among the index numbers, the efficiency of the company's operations is best characterized by Cost Efficiency and Admin Efficiency. Among them, as mentioned above for Cost Efficiency, the Hungarian office performs above the average value, so during our job we did not need to improve this value. On the other hand, the value of Admin Efficiency is significantly behind the other offices.

The reasons for this may be:

- Few orders are made by freight forwarders.
- The number of full-time employees is high.
- The number of employees and their number of orders is not counted uniformly in the different offices.

The first two reasons were excluded because all employees need extra working time to doing their tasks properly, so the problem may be that the number of orders and employees report differently. Different countries do not count the workforce which is included in the HAVI staff but also STI jobs is done and orders are treated differently within the freight organizer program, unlike Hungary, each address is an "order", while at the Hungarian office there may be more titles than one order. The company has standardized the values in each country, compared to the same month of the same year in order to exclude seasonal factors.

That as a result some countries have moved in a negative direction. Since we did not know that the performance of an office would suddenly deteriorate during the year, we can assume that the distortion of the indicators is due to the changes caused by the unified system.

Due to the due diligence of the organizational units and the in-depth interviews with the staff, the optimum redistribution of the tasks and the slight transformation of the organization took place. Employees' net work time of 8 hours was considered as 100 time units for simplicity, meaning 125 time units represent 1 full day job with 1 hour overtime. Knowing the time needs of each job as

measured by the employees have been obtained, which reorganization / development proposals can save time to the company. To quantify the estimate, we multiplied all of the net time units of the workers concerned by multiplying the savings of working time and the number of workers concerned, resulting in unit time savings.



Figure 2 Feasibility / cost

Source : based on company data the authors

The efficiency of the Executive Director and Operational Manager can be improved if employees' questions do not go directly to them, but appoint a head of admittance who has the right to make decisions in cases where freight forwarders can not make decisions, but do not necessarily require leadership involvement. His task is to take away the tasks related to the day-to-day work of the admin area and prepare for financial decisions from the businessman, the business development leader and the operational leader. This also improves efficiency on the freight organizer side if freight forwarders are more actively utilizing the help of a staff member from a financial point of view. For the purpose, the HAVI outsourced controller was best placed for this purpose, so STI Hungary permanently took over the 2018 From the Executive Director and Operational Leader and Cargo Operator section, we realize 103 units of time savings. However, this means a small, but organizational transformation for the company.

Efficiency can be increased by palette admin, on the one hand, by eliminating unnecessary control processes that arise from the fact that the current billing system is faulty. In practice, this means that documents of non-pallet-exchange transportation are also available to the palette collector. Another problem is fixing the shortage of palette to two places. The palettes are recorded in both the Carlo administration system and in a special Excel file for various filtering and registration reasons, since the Carlo system is not aligned with the program. These problems could be solved by upgrading the account control system and Excel macro fixation. In case of realization, 19 units of time savings can be realized.

Currently, orders received by e-mail are sent by freight forwarders to a colleague of an admin assistant who electronically saves them in the appropriate directory of the flight. The received orders are duplicated. The freight organizer will look for it and then send it to the Azadmin Assistant who archives it, but as long as the freight forwarder finds and sends the order, he could save it at the same time. This process would have a lot of extra time on the side of the freight organization so it would not be enough for the company to realize the assistant's time. In case of realization, 17 units of extra time can be realized, on the part of the freight organizer and 5 units of time on the assistant side. On this basis it can be stated that this change would not be favorable for the company.

In many cases, supplier issues are unreasonable for the controller, there are some questions that would be answered by HAVI's outsourced accountant. The reason for this is that the decision-making powers are not properly clarified. The solution to the problem is to clarify the lawyer's and the duties of the accountants to know the problems that the outsourced workforce may decide on. In case of realization, 4 units of time savings can be realized from the controller part.

Automating dispatching and informational mails would speed up the palette admin's work as they are currently performed separately. This process can be automated by the previously mentioned excel programming, which means significant time savings from the palette admin side. In the case of a palette admin, 10 units of time saves could be realized.

By changing the practice of billing, you can realize up to 9 units of time savings.

Employees in the company belong directly under management in the organizational unit. Appointment of an operation supervisor would be necessary, as the manager of an organization needs to deal with issues of freight organizers. In addition, checking the position of vehicles, consignments and informing the partners can be incorporated into the scope of their duties. Promoting a more experienced freight forwarder would give the new position a chance for internal decision-making so you can find a solution in the right place and time. It also saves time for freight forwarders by carrying out inspection and information tasks. In the event of its realization, a total of 184 units of time savings can be realized from the freight organizer and operational management section.

In addition, significant time savings can be achieved by introducing electronic billboards and delivery notes. As it realized, billing and admin assistants together can save up to 14 units of time.

Carlo is a logistics software used by all employees of the company, which records all tour organization and financial information, so the effectiveness of the program has a huge impact on the work of the employees. The system is often slow due to overload, which takes valuable time away from employees. Speed enhancement is a task out of the organization that is run by the software operator, making it

feasible to be independent of the office. Usually, you can realize 35 units of time savings on each part.

Further improvement can be achieved by recruiting a new freight forwarder, but the company's request was to improve efficiency without increasing staff numbers.

Summary

If all of our proposals are implemented in accordance with the forecast, a new organizational chart is created and a total of 463 units of net work time savings can be realized, which means a 29% efficiency improvement potential for the company.

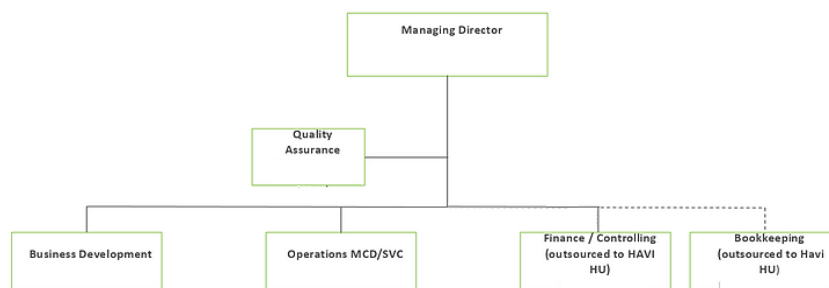


Figure 3 Organizational structure of the company

Source: authors

It should be pointed out, however, that this is only a theoretical value assuming that the proposed modifications are fully estimated. According to the company's leaders, approximately 15% improvement is likely. This result provides two opportunities for the company and the employees. The first option is to introduce a new bonus system, which will keep the average daily plus a working hour and allocate free capacity for new ferights and half of the additional revenue will be allocated to the freight organizers. The second option is to reduce the working time so that all employees of the office can do their daily work without overtime.

Of course, after the changes, further tests will be carried out to check the effectiveness of the new work processes and compare them to the previously measured values. This will allow you to calculate the exact value of the increase in efficiency. The company plans to adopt the proposed changes in several stages, during 2018.

Overall, it can be observed that a work-friendly system can be established in a multicultural environment, with appropriate organizational transformations and process optimization, in which it can be brought in line with the development of the company and the increase of employee satisfaction.

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