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THE ROLE OF LOGISTICS IN CREATING COMPANY VALUE

Abstract

The requirements necessary for logistics services to fulfil the global demands have forced their transformation. At present, the needs of global communications, transportation, require planning and market information, etc., and they pose different challenges than in the past. These changes have made it impossible for the sale of industrial devices and products to be conducted without logistics. There is an increasing number of industrial goods in which logistics no longer performs an assisting role but the crucial one, contributing to company’s profitability. There has been, in certain cases, a greater than 50% increase in the contribution of logistics to the manufacturers’ value added chain. This strongly hybrid convergence of assets and logistics services has invented the term ‘product bundle’, which combines tangible and intangible goods along with services. The author’s experience of research into and the assessment of the intangible value of over thirty companies across various sectors of the economy has led to the conclusion that intangible values that have an impact on the company value also occur outside balance sheet activities and include logistic competences as well. In companies with logistic competencies, the index of increasing company value can be viewed as an index of its technical and marketing efficiency. The measurement of company value facilitates the assessment of company logistic focus.

Keywords: logistic competences, intangible assets, increasing company value.

Company value in the market economy

The growing market economy has been dominated by the ownership approach. The roles of stock exchanges and bond markets were getting important increasing rights to monitor a company by the people investing in it. Low company profitability leads to a low value of shares. Along with the improvement of company’s financial standing, there is the increase of its profits, which, in consequence leads to a higher value of its shares. The sale of the right to participate in profits to other bodies may become a source of new funds.

Tangible values include fixed assets that feature in balance sheets (material and financial) minus any liabilities. Their book value is usually a reference point in relation to the market value.

Intangible value, goodwill, is additional to the market value of company fixed assets which are the result of its organized operations. A potential purchaser is willing to pay a greater price, based on this value, than a value of tangible assets as he is purchasing something that will bring profits. Therefore, goodwill partly includes intangible values...
which determine the operations of the company which has a range of set assets. It raises the question of how a company utilizes tangible assets. This is the knowledge on organizational and economic issues indispensable to run production or service (not necessarily only at the highest level). Therefore, a calculation of goodwill is only performed in operating companies, whereas companies under liquidation or bankruptcy forego this element.

**Know-how** includes intangible assets which determine company’s competitive advantage. This is the knowledge that reaches further than goodwill and emphasizes the issue of providing the company with a competitive advantage on the market. It can be defined as a procedure and methods of sales on the competitive market, skills necessary to create offers which are certain to win tenders, gaining new clients and the ability to gain and process data about competitors, etc.

Sometimes, it is difficult to differentiate between the knowledge of goodwill and know-how. There can be frequently faced the dilemma that there are some skills that fall into both categories and it is hard to provide a clear-cut answer whether it is know-how or still only goodwill. Such an issue causes the need for research tools which would provide clear assessment criteria in the context of the latest science and technology achievements, and bring a measuring scale demonstrating all the variants.

The law views intangible and legal assets (with the exception of point 17) acquired by the company as, included\(^1\) in fixed assets, property rights that can be put into the industrial use with the expected use of longer than one year, utilized for the purposes of an individual company, in particular:

a) proprietary copyrights, and related rights, licenses, concessions

b) rights to inventions, patents, brand names, design patterns

c) know-how

When intangible and legal values are utilized and included in a hire or lease agreement, they fall into the category of the fixed assets of one of the parties of the agreement, according to the terms and conditions of Act 4. Intangible and legal assets also include the acquired company value and the costs of completed development performance.

This is the term of a wide range, which allows business people to assess their company’s identity and answer the question of what truly brings the company to a competitive advantage, resulting in market accomplishments.

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\(^1\) Art. 3 section 1 item 14, Accountancy Act of 2014 / 2015 (Dz. U. 2013, poz. 330).
According to its criteria, non-property assets assessment identifies the research fields and issues that are useful in gaining a competitive advantage in a particular sector of operations. It refers to the following points:
1. company’s reputation
2. technical know-how
3. marketing know-how
The research fields on intangible and legal assets cover the following areas:
- technical and marketing knowledge of a non–inventive nature but referring to the range specifics of commodity turnover
- experience and accomplishment in a competitive environment
- intellectual and creative resources of employees
- operations and development potential
In order to make the estimation of all the values generated in the company, it is essential to determine the constituents of intangible and legal assets, which also include logistic competences.

![Diagram](image)

**Fig. 2. Logistics in the system of building company value**

*Source: own work.*

The main types of economic efficiency which increase the value of a company include:
- Efficiency of form – value added while processing, production and assembly (what).
- Efficiency of place – value added during goods transportation (logistics) to places enabling their purchase (where).
- Efficiency of time – Just-In-Time delivery (when).
- Efficiency of possession – value added during marketing operations, instigating the desire to possess/use a product (why).

The theoretical paper is always feasible to perform a study. The assessment is based on the sensitivity analysis of know-how elements which indicate the validity of the company management style, if its continuity and transfer of intangible know-how to its ownership style are risk-free.
Globalization of logistic operations in the industry

The EU strategy aims at the maintenance and development of the European industry through providing information to society, a high investment level in research and new technologies, their application in the industry, including raising employees’ knowledge and bringing maximum profits from the unified market. In its strategies, the EU attempts to integrate completely technological and production processes which facilitate the organization of the value chain and its adjustment to the continental scale. Thus, competitive advantages of the member states become a source of new opportunities for western European countries.

The EU industrial policy introduces various forms of support in order to position small and medium-sized businesses in new market niches which generate the highest value added. This is combined with higher concentration of production in a particular sector than in other areas to increase employment and to achieve greater industrial specialization. In a view of the fact that services have dominated the EU economy, potential benefits from a unified market could be enormous. The crucial Services Directive\(^2\) presents the entire potential of the EU services sector, the potential often not entirely explored.

The economy as a full entity stimulates production in both a direct and indirect manner, through the interconnections between intermediate products and through the final demand for industrial goods. The share of services in total exports is still very limited. Services connected to companies usually deal with indirect exports, which substantially outruns direct exports. Therefore, the significance of services connected to companies cannot be determined solely on the basis of the direct value of exports, but also through the demand for intermediate goods from other sectors.

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\(^2\) www.urtip.gov.pl/uke/index.jsp
Fig. 4. Changes in the academic perception of logistics

Source: own work.

Fig. 5. Logistics Supply Chain

Source: own work.
Logistics services assisting industry which are the part of an industrial value added may be related to the production process or product and include:

- Flow and transportation of goods - physical movement of products, selection of the means of transportation.
- Storage and warehousing – storage management, warehousing, integration of information on stock and means of transportation.
- Industrial packaging – individual packaging, bulk packaging – adjustment to the means of transportation.
- Material handling – movement of products within the company.
- Inventory – stock control ensuring its adequate level.
- Order processing - picking, packing and delivery.
- Demand forecast – processing future demand for a product to ensure effecting stock management.
- Production/services planning – production planning combined with effective stock management.
- Purchases – supply system combined with logistics delivery.
- Customer service – ensuring adequate customer care.
- Location of warehouses - Location of warehouses combined with production flow and distribution channels.
- Return management.
- Service maintenance (spare parts).
- Waste management.

<table>
<thead>
<tr>
<th>No.</th>
<th>Factor</th>
<th>Traditional systems</th>
<th>Supply Chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stock management</td>
<td>In individual company</td>
<td>Operations coordinated along the chain</td>
</tr>
<tr>
<td>2</td>
<td>Stock flow</td>
<td>Interrupted</td>
<td>Continual, clear</td>
</tr>
<tr>
<td>3</td>
<td>Costs</td>
<td>Minimised cost</td>
<td>Costs of unloading included in the product’s price</td>
</tr>
<tr>
<td>4</td>
<td>Information</td>
<td>Monitored by the company</td>
<td>Mutual, shared</td>
</tr>
<tr>
<td>5</td>
<td>Risk</td>
<td>Concentrated in the company</td>
<td>Mutual, shared</td>
</tr>
<tr>
<td>6</td>
<td>Planning</td>
<td>Company focused</td>
<td>Supply chain links</td>
</tr>
<tr>
<td>7</td>
<td>Relations between companies</td>
<td>Low-cost focus</td>
<td>Partnership geared towards the product’s price, which includes unloading costs</td>
</tr>
</tbody>
</table>

Source: own work.
Interdependencies of logistics and industry can be viewed in two ways. The first link comes from a sector that features in official statistics, and to which services are ascribed. In this case, services also cover subsidiaries. However, it becomes complicated when the services are offered to other service providers that are often industrial companies. It is difficult to determine which services are connected with the demands of the production companies and which are not. The division into services connected to a particular or general industry also poses a challenge. In this context, an industrial company whose processes are partly involved in the production processes of another industrial company provides logistics services as an assisting industrial service, however, official statistics ignores that fact and both companies are perceived as being industrial.

Another perception of logistics services as an assisting industrial service refers to the services provided in industrial companies which deliver industrial products to other companies. This distinction considers the development of cooperation services in industrial companies which recognize such a service in their reports as a part of industrial value added. The EUROSTAT regards services as those which are purchased in order to run one’s own business. Therefore, they should not include resalable services. Efficiency gains generated by logistics services that translate into profits in the industry, thus they contribute to the indirect efficiency in the industry.

The key stimulants for the development of the assisting logistics services are divided into two types: exogenic (acting from outside) and endogenic (coming from a company). The first type includes:
- Economic growth, globalization of markets.
- Development of new technologies.
• Market transformations – move from the manufacturer’s market towards the consumer’s market.
• A shortened product life cycle.
• Trade concentration trends.
• Advancement of new IT and communication technologies.
• Expanding competition – rise in the level and quality of services, growing demand for additional benefits.
• Emphasis on the ecological aspect of operations.

Internal stimulants that affect the development of logistics services in industry are anchored in various fields of the company operations. The research conducted using MeRKI-U³ led to the investigation of co-operators from 100 companies from ten sectors on the subject of the dynamics of the development of the assisting logistics services in Poland, and the correlation between intermediate products with services and industry. The researchers provided a list of factors of the endogenic type, and grouped them into three categories: that of knowledge, employees competences and skills, a change of management and technological readiness.

The research proved that in the set of intangible values not all factors contribute to the company’s value growth, but those that do contribute, are interlinked and participate in the construction of logistic competences.

• KH set - know-how, knowledge on technology and marketing which is not innovative but refers to the specifics of the range of commodity turnover, experience and accomplishments in a competitive environment.
• ZIT set – employees’ intellectual and creative resources.
• PAR set – the potential of a company’s activities and development.

In order to make endogenic factors stimulate the development of logistics services, they must remain in the state of readiness which is based in the competitive market with a varying force. Therefore, it is assumed that a full product of all the three values makes the operations’ environment less susceptible to any interferences from the outside, thus resulting in more vigorous growth.

The global economy favors companies that organize rather than employ. Hence, new organizational bodies apply process management, when a production company may be the owner of a certified process and the process can be partly implemented in another organization. Extracting logistics services from production and moving them outside, due to the company’s strategic plan and its application, is called outsourcing.

Based on the forms of extraction, outsourcing is divided into two types: contract and capital. Contract outsourcing passes some operations from the company, which liquidates its assets and cuts employment through contracting another provider from outside. Among its advantages, there should be included: freedom in choosing a contractor, limited engagement, risk and responsibility for the performance of an operation, reduction of the company structure and management, specialization, etc. There are, however, drawbacks, which comprise employment cuts, limited control over assigned operations, and reduced long-term planning, etc.

Capital outsourcing is based on contracting some operations, along with assets and employees, and establishing a daughter company or capital takeover (e.g. majority shareholding) of another unrelated company. The advantages include: maintaining or

a slight employment reduction (a daughter company), more control, more freedom of planning, impact on prices and operations – daughter companies (an opportunity to cooperate with others while maintaining priority of a parent company). However, the disadvantages include: limited freedom when choosing a contractor, lack of a radical strategy change and reasonably high costs.

There are the following objectives of outsourcing:

* To reduce and control operating costs.
* To improve the company focus.
* To gain access to the world class capabilities.
* To free internal resources for other purposes.
* When a function is time consuming to manage.
* When insufficient resources are available internally.
* Capital acquisition.
* Share risks with a partner company.
* Cash inflow.

In the EU, outsourcing prevails mainly in the following areas: transportation, warehousing, transportation management (fleet management), IT, data processing, company protection, catering, machinery and device maintenance, cleaning and maintenance and basic accounting. Outsourcing can be defined as a strategic use of outside resources to perform the activities traditionally managed by internal staff and resources. It is more beneficial for the employer as employees’ remuneration which is proportionate to the time spent at work; they are paid for their time.

The opposite of outsourcing, internalization, entails bringing processes handled by third-party firms in-house. It involves taking control over a provider or a consumer. Insourcing allows the company to avoid unattractive markets. On the national scale, internalization is often synonymous with insourcing.

The economic experience reveals that there are doubts whether services linked to the production and sales of physical goods can be produced or purchased outside. If a company decides to purchase a service, it often outsources it. Companies can avail of these services; not only in-house, but also contact them out of the business. In such a case, the share of services in industrial companies rises in parallel with services.

Table 2. Selection of a service provider – comparison of arguments.

<table>
<thead>
<tr>
<th>No.</th>
<th>Arguments for in-house operations – make</th>
<th>Arguments for contracting services from specialized companies – buy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Basic arguments:</strong> protection of own operational confidentiality, a lack of offers of services from outside, qualitative and schedule requirements, and others, that are not feasible outside</td>
<td><strong>Basic arguments:</strong> Higher competences of external providers in a particular area, a lack of access to know-how, qualitative and schedule requirements, or others, that are not feasible in-house</td>
</tr>
<tr>
<td>2</td>
<td><strong>Economic arguments:</strong> costs, profitability, lower risk</td>
<td><strong>Economic arguments:</strong> costs, profitability, lower risk</td>
</tr>
<tr>
<td>3</td>
<td><strong>Additional arguments:</strong> Prestige, utilization of own operational resources</td>
<td><strong>Additional arguments:</strong> Prestige, limited risk connected to the need for technological advancement</td>
</tr>
</tbody>
</table>

*Source: own work.*
Logistic services for industry

Assisting logistic services for industry undergo various classifications, however there are two groups connected with an industrial product. The objective of the first one is to manufacture a product and its utilization. The other, entails the offer of services which, for the buyer, raises the value of a product, for instance, through efficiency and safety of delivery. These types of products linked to services involve a greater interaction between manufacturers and purchasers than in the first group. It also demands the focus on the development of services, adjusted to the particular customer segments. Exchange of information with clients seems to be vital. In the case of high flexibility production companies, any new suggestions and changing customer requirements are fulfilled with a rapid reaction in reference to the product. Therefore, it appears unsurprising that the expansion of communication and IT technologies has significantly stimulated the growth of logistics services related products.

The following factors affect the importance and cost of logistics:

- Effective logistic system can substantially reduce production costs.
- Positioning of the permanent elements of a logistic system (nodes) in the supply and distributions network impact total logistics costs.
- The shorter the lead time on an order, the less need for stocking.
- Product value influences logistics costs; shipping rates, warehousing and packaging.
- Logistics costs are affected by the ratio of weight and volume, meaning content (light and sizable products raise logistics costs).
- The higher the risk of a damage or a loss, the higher the costs of transportation and warehousing.

The development of cooperation services dependent on foreign capital, established after buying out companies in Poland in various sectors of the economy, is linked to putting, through foreign capital, production operations in order through ‘internal restructuring’. Internal restructuring of the use foreign capital translates mainly to the growth in economic effectiveness.

Foreign investors integrate companies in groups of companies, which are established to concentrate on particular products. This integration of companies occurs in all areas: purchasing materials, production, sales and exchange of information about the market. Cooperation encompasses a range of products on offer, quality policy, mutual distribution channels and negotiations with trade partners. This requires changes of the crucial economic, organizational and technical parameters which facilitate effective company operations in the competitive market. At the same time, the synergy of skills and accomplishments of the whole group is also utilized. The best opportunities to improve the effectiveness usually come from the cooperation between trade and marketing, whose objective is to establish new distribution channels and to create a cohesive trade policy with regards to the most challenging national and export partners.

The sale of services to export companies is labeled as a national sale when the finished product is included in the official statistics. The direct export of logistics services is relatively underdeveloped. Only a half of the researched service providers declared direct sales of their services, though the majority of them provide services for export companies, however their input is revealed.
Measurement of the increase in company value when the company focuses on logistics

In a company with logistics competences, the index of raising company value can reflect on its technical and marketing condition. The achieved goals can be compared to similar national and foreign companies, with the previous results and also with set standards. The basis for a formal application of the constituents of building logistics competencies is the focus on the results which involve continual analyses of the key areas, of the allocation of human and material resources, of planning of services compared to the competitors’ activities.

According to the algorithm for building logistic competences, in order to calculate the influence of the company competences on company value growth, the index of boosting company value \( W_p \) needs to be calculated.

\[
W_p = \frac{\gamma \times 0.25}{4}
\]  

(1)

where:

\( \gamma \) - an average value of interdependencies between the factors of competences building

0.25/4 – a ratio of the maximum value of boosting company value and the maximum value of interdependencies between individual elements of the sets

Based on the calculated index \( W_p \) and the estimated value of intangible value, the value of logistics competences \( W_{KI} \) is then calculated as follows:

\[
W_{KI} = \left[ \sum_{1}^{3} W_{ZIT} + \sum_{1}^{3} W_{KH} \right] \times W_p
\]  

(2)

where:

\( W_{ZIT} \) – value (estimated) of Employees Intellectual and Creative Resources

\( W_{KH} \) – value (estimated) of Technical and Marketing Know-How

When interdependencies of all elements in each set are the highest (4°), the index of boosting company value will be in the set of interdependent elements, and will stand at 0.25 of the current value of intangible assets. Factors that are not interdependent, do not contribute to boosting the company value. In the case of lost, dependencies among the factors building logistic competencies, the index of boosting the company value will vary between 0 and 0.25 on a one year scale, in reference to the current value of intangible elements recorded on the balance sheets.

The objective of the measurement of boosting company value is to concentrate all efforts to focus the company on its results. This is not a novel tool, it was applied at the beginning of the 20th century in the scientific management. It requires definitions and an application of calculations. The definitions have been improved and contribute to the scientific development in the field of management of the company value. However, rarely and ineffectively are the measurements availed of in order to assess executive staff and
remuneration depending on the achieved goals. Companies still believe in the myth that just awareness of the necessity of logistics will transform the organization. Experience shows that it is mainly up to the managerial staff’s will and effort to re-orientate the company in order to build its logistic competencies, only then companies are capable of boosting their value.

The author’s experience in research and assessment of intangible values of over 30 companies from various sectors proved that intangible values that affect company value also occur in non-balance sheet areas, including logistic competences. The research shows a possible relative nature of the impact of logistic competences on boosting company value. The company proved to generate profits without logistics competences when developing its marketing competences. Despite not making profits, the company can boost its value thanks to its logistic competences. In such a case, the ability of selling the part of intangible values that is subject to the principles of commodity turnover, thus contributing to boosting company value, is dealt with.

Logistics competences are created by applying endogenic elements (from within intangible values) or purchasing them (bought from outside). The MeRKI-U method refers to the construction of innovative competences of companies which have various types of marketing competencies, often having logistics potential. The company can start building its logistic competences from scratch or develop the existing potential and can assess the impact of the logistics potential or competences on company value.

The assessment of company logistic competences

The assessment of company logistic competences is of a very specified nature, though its individuality and often the necessity of scientific search, result from the fact that it is impossible to unify the assessment or apply common solutions. The V-biznes4 method is used to assess intangible values (in any form), it allows every element of a set to be examined and to calculate partly relative values which determine the influence of each element on target achievements.

The factors generating profits from intangible values affect the company’s financial statement to a different extent. In order to assess it properly, these factors should be determined and, separately, the impact of each them on the company finances must be examined. The assessment of logistics competences as intangible value is possible when interdependencies between PAR (Activities and Development Potential) are compared, which is not subject to the assessment, with every element of the sets which undergo the assessment. They include: the ZIT set (Intellectual and Creative Resources) and KH (Technical and Marketing Know-How). A four-note scale of the assessment is applied to determine the degree of interdependencies between the factors of the assessed sets and the elements of the PAR set. They are as follows: 1° - unrelated factors, 2° - loosely related factors, 3° - related factors, 4° - strongly related factors. The ‘related’ term refers to the interdependencies towards building a value. The factors that are a product of KH, ZIT and PAR sets have the main impact on the value of logistics competences. Their intersection is a set of related elements.

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During the assessment, market success factors which affect company’s profits are determined. They may vary depending on the sector and are related to the company’s specifics.

The index of boosting company value reflects company’s logistics competences, however, the assessment is performed at the provided moment and does not demonstrate the factors that strengthen or weaken potential of logistic competences building.
This feature is reflected in the skill to adjust to the changing markets. The leading companies observe the market and adjust their offer to satisfy fluctuating customer’s demand, technological advancement and requirements.

Table 7 shows an example of diagnostic research results using the MeRKI-U method for logistics services of the company. The service provider had reasonably adequate marketing competences and partial logistic competences (at an average level). The company is a part of a large corporation, and is not entirely responsible for its market success; its operations on the corporate market stand at 76.6%. In order to become a company with full logistic competences, the interdependences between endogenic factors of competence building must reach close to 4.0 average.

**Conclusion**

The detailed analysis of mutual relations between industry and services⁵, beyond the statistics on employment and value added, reveals whether, from the industry viewpoint, the industry sector is more important for the service sector or vice versa. The analysis also focuses on the ‘related services’, for which a demand grows as the requirements of the industry grow. Related service face intensified dependencies; of industry on the services sector development and, simultaneously, the impact of services on industry effectiveness. It can be also observed a growing demand for services linked to the production as well as the interdependency between industry and service providers. This means the integration of production and services sectors, which, in consequence, boosts the links within sectors (industry and services) and the development of new organizational forms in industry.

The increasing number of logistics services provided to industry may serve as a determinant of boosting the industry value. The process however is not homogenous. Some industrial operations, such as outsourcing, move from manufacturing companies to the services sector or assisting industrial services remain in industry sectors as an activity provided by a service provider linked by capital or provided by employees. This limitation of strictly manufacturing activities and statistically proven growth of logistics services in industry do not cause the increase in competitiveness, as it occurs in the case of services provided by outsourced companies. Such benefits lead to the improvement of the allocated resources and to opportunities to profit from specialization. They have their background in the chain of industry value and logistics services (in industry it is lowered and in services the value chain grows), viewed sector-wise, profits are generated from outsourcing.

The forecast for the future shows a decline in traditional manufacturing. This change is marked by the increasing importance of logistics services provided for industry. Globalization has created many openings for industrial products. At present, the requirements from industry for logistics service are more substantial than several years ago and this tendency is increasing. International competition also involves offers of the best product or service at the lowest price, which causes the incessant need for cost cutting along the whole logistics chain.

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⁵ Collective work under the academic supervision of Kunert O. *Metodyczne podstawy dynamiki rozwoju usług okołoprzemysłowych w Polsce dla celów scalania rynku Unii Europejskiej* (research project no NN112412640).
BIBLIOGRAPHY

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