

Arthur D Little



Innovation Excellence in Logistics

Value Creation by Innovation



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ELA European Logistics Association / Arthur D. Little

Innovation Excellence in Logistics

Value Creation by Innovation

Results of the ELA / Arthur D. Little Study.

ELA European Logistics Association / Arthur D. Little

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Preface

“Innovation distinguishes between a leader and a follower”

Steve Jobs, CEO of Apple Inc.

Innovations have always been judged as the growth engines of society – in the field of logistics, their importance is still underestimated and they are not exhaustively analyzed. However, increasing customer needs and new business models in trade and industry offer various chances to develop new markets by means of innovative logistics services. Technology improvements also enable logistics processes to be created more efficiently.

Which innovation objectives are pursued in each case, which are the triggers and drivers for innovations in logistics, how is the innovation management organized within companies, which innovation approach and process is pursued in each case, which innovation fields receive attention and which essential success factors exist for Innovation Excellence in logistics?

You will observe some very interesting findings for those questions in our study covering more than 100 logistics service providers and shippers in various industries across 15 European countries. The study was conducted by European Logistics Association (ELA) together with the international management consultancy Arthur D. Little.

The ELA wishes to thank all the individuals from the different ELA member organizations in European countries who supported the study in various ways and opened the doors to participating companies. We also thank the team of Arthur D. Little consultants and staff members for their excellent cooperation.

Prof. Dr. Dr. h.c. Hans-Christian Pfohl

Member of the board of European Logistics Association and Head of Research and Development Committee

Chair of Management and Logistics at Darmstadt University of Technology

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Abstract

In the jointly conducted European study “Innovation Excellence in Logistics” the European Logistics Association (ELA) and Arthur D. Little, methodologically supported by Prof. Pfohl (TU Darmstadt), analyzed more than 100 *logistics service providers* as well as their counterparts – the *shippers* – in various industries across Europe.

A substantial improvement potential by the application of Innovation Excellence in logistics was identified and the following questions were answered: Which innovation objectives are pursued in each case, which are the triggers and drivers for innovations in logistics, how is the innovation management organized within companies, which innovation approach and process is pursued in each case, which innovation fields receive attention and which essential success factors exist for Innovation Excellence in logistics? Based on these insights, general and specific recommendations were established.

By way of a summary, the following study results can be emphasized:

- Price and reliability are no longer the only buying criteria. They will develop into prerequisites for contracting logistics services which lack differentiation potential.
- Objectives of innovation activities in logistics will become more customer-oriented and less cost-oriented in the future. In this context the importance of innovation ability as a deal-clincher will increase significantly.
- Organizationally the shift from cost-oriented towards customer-oriented innovation activities has to manifest itself in a bundling of these activities either in a separate department or concentrated in a customer-oriented line function.
- The innovation approaches of *shippers* (internally driven) and *logistics service providers* (market-driven) are fundamentally different but mutually complementary.
- *Top innovators* have implemented a structured innovation process in order to develop their new products / service offerings, and measure progress and success on a results-oriented scale.
- The structured generation of market and technology intelligence is the major success factor for an effective innovation management for both *shippers* and *logistics service providers*.
- In addition a market implementation / rollout concept and ongoing involvement of customers are especially important for *logistics service providers*, while stringent project management is critical for *shippers*.
- Companies with a high Innovation Index, meaning companies with an effective and efficient innovation management system (*top innovators*), generally have lower logistics costs or higher EBIT margins.
- Innovation pays off. An optimized innovation management can boost company success – as measured by EBIT margin – by an average of 3 to 8%-points.

This document summarizes the study results.

2

Management Summary

Innovation Excellence Pays Off

An optimized innovation management system can boost company success. Companies with a high Innovation Index (*top innovators*), meaning companies with an effective and efficient innovation management system, generally have lower logistics costs or higher EBIT margins.

Shippers can increase EBIT margins by 4.4%-points if innovation management is optimized. *Top innovators* amongst the *logistics service providers* can even increase their EBIT margins by an average of 8.5%-points. *Average innovators* amongst *logistics service providers* consider the potential to be much lower, although still significant, with a 2.7%-point increase in EBIT margins.

The potential for reducing logistics costs is between 7% and 14% for all *shippers* and *logistics service providers*. For perfor-

mance-related indicators such as turnover, delivery reliability and delivery time, all participants expect a significant improvement potential.

From Cost-oriented to Customer-oriented Innovation

Today the most important objectives for innovation are the modularization of logistics services plus reduction of logistics costs. However, this importance will decline significantly in the future as cost-oriented innovations are replaced by customer-oriented innovations. The generation of new services to cover existing requirements and to stimulate new ones is likely to become the most important innovation objective (figure 1).

Price and reliability are no longer the only buying criteria, but will develop into prerequisites for contracting standard logistics services. In this context, the importance of

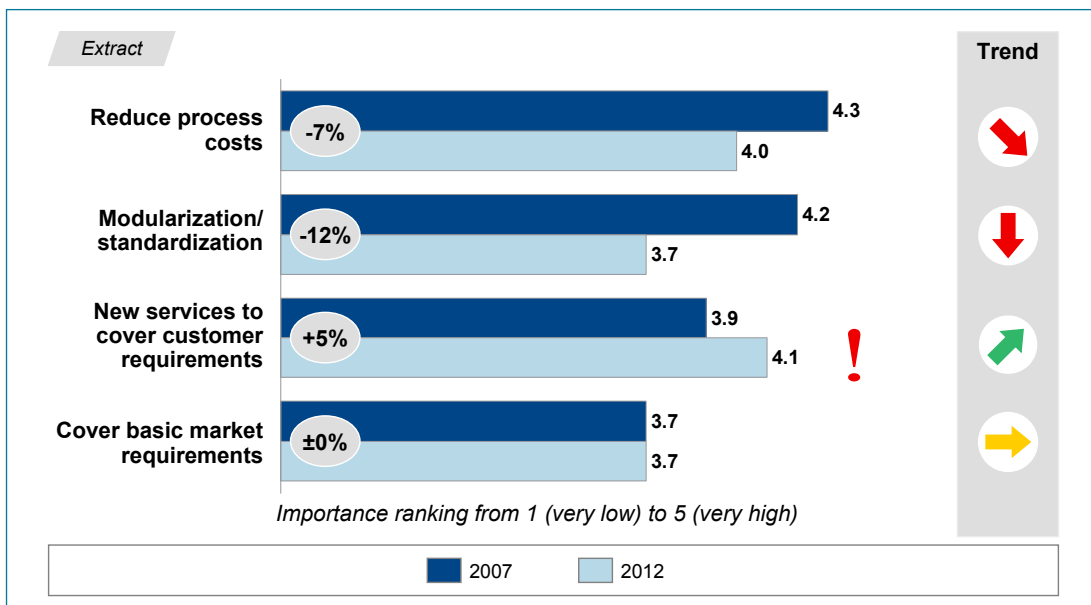


Figure 1: Innovation objectives

innovation ability as a deal-clincher will increase significantly. As a result the focus will shift from cost-oriented towards customer-oriented innovation activities.

Personalized and Institutionalized Responsibility Counts

The responsibility for innovation management is more often allocated within top management to *logistics service providers* than to *shippers*. Otherwise the responsibility is more institutionalized at *shippers* compared to *service providers*.

Top innovators primarily anchor their innovation activities in a dedicated line function or concentrate them in a customer-oriented line function.

Insufficient human and capital resources are the main reason for failure to perform innovation activities.

Customers and Companies Trigger and Drive Innovations

Innovation projects in logistics can be characterized by their degree of novelty and their degree of standardization; only the smallest proportions are truly new developments.

Triggers for innovations at *logistics service providers* are mostly customer-specific projects, in contrast to mostly customer-independent projects with *shippers*. While the majority of *shippers* sees themselves as the source of innovation ideas, from the *logistics service providers'* point of view all value chain participants are involved.

Top innovators amongst *shippers* involve their suppliers when looking for innovation ideas, while *average innovators* are oriented towards their end-customers. *Top*

innovators amongst *logistics service providers* are more customer-oriented than *average innovators*; they are better at picking up and implementing ideas at their *shippers*.

The Innovation Approaches are Different but Complementary

The innovation approaches of *shippers* and *service providers* are fundamentally different but mutually complementary. The approach of *shippers* is primarily internally driven, based on strategic planning. *Logistics service providers* follow an approach that is almost exclusively market-driven, meaning it is triggered by the customers in question (their *shippers*) and a concrete customer requirement or problem.

Top innovators amongst *shippers* involve *logistics service providers* in their innovation process at an early stage; *top innovators* amongst *logistics service providers* are involved earlier.

All *top innovators* are increasingly measuring the success of their innovation projects, opening up higher transparency and controlling options. They are increasingly measuring the value added of their logistics, whereas *average innovators* focus on costs.

Adaptable and Flexible Logistics Systems and Networks are in Trend

Adaptable and flexible logistics systems and networks have the highest absolute potential for innovation within logistics from the participants' point of view. In particular, cooperation across the value chain is regarded as crucial for the realization of improvement potentials.

Virtual reality (such as for digital plant planning) and automated control (e.g. by agent systems, RFID etc.) are seen as the most important growth areas for innovations. The key barriers for virtual reality, however, include insufficient degree of detail and reusability of models.

Market / Technology Intelligence is Key

Key success factors for *top innovators* amongst *shippers* are a structured generation of market / technological know-how, and stringent project management.

Key success factors for *top innovators* amongst *logistics service providers* are again a structured generation of market / technological know-how, and the early and ongoing involvement of their customers. All others first need to focus on a clear strategy for their logistics activities and the development of strategy and project management competencies.

With respect to the degree of implementation of key success factors, *top innovators* are far ahead of *average innovators*. This means that *average innovators* face an implementation problem.

How can Innovation Excellence be Achieved in Logistics?

For innovation management to yield maximal results for a company's success, strategy, processes, organization and resources have to be balanced and aligned. Based on the results of this study general and specific recommendations can be derived.

General recommendations which hold true for both *shippers* and *logistics service providers* are:

- Implement a structured selection process for innovation initiatives (idea

management) and strategic planning in order to optimize resource allocation.

- Bundle innovation-related activities in department or line function, with clear responsibilities, align innovation projects with strategic objectives and report to board level.
- Modularize and standardize service offerings in order to generate cost efficiencies.
- Implement structured and continuous market intelligence activities in order to identify new customer needs and technology trends (market / technology intelligence).
- Involve external partners as early as the concept development phase.
- Implement a balanced system of indicators consisting of both cost- and customer-oriented measures.

Shippers can address their specific deficits by:

- Implementing a stringent project management for all innovation activities in their logistics domain.
- Developing and communicating a clear strategy for their logistics area which is aligned with overall company objectives.
- Ensuring early and continuously involvement of all affected company departments, customers and qualified *service providers*.

Logistics service providers can address their specific deficits by:

- Developing and implementing a concept for market launch and rollout of new products / services.

- Developing and institutionalizing a continuous learning loop and a supporting knowledge management.
- Establishing tools and methods to support innovation activities within logistics.

Further improvement areas are dependent on the specific company environment and the degree of maturity of the innovation management in place. The improvement potential that the study participants expect, even and especially when they are already well advanced in this respect, makes striving for Innovation Excellence in logistics worthwhile.

3

Objectives, Definitions and Scope

3.1 Study Objectives

This study aims to identify *top innovators* and the value added they generate by applying Innovation Excellence in logistics.

The study determines the key differentiators of *top innovators* with respect to

- the strategic importance and organizational foundation of their innovation management,
- their innovation approach and process models incl. definition of roles, and
- critical factors for successfully realizing innovations within logistics.

Finally the additional potential benefits that *top innovators* tap into when utilizing their innovation management capabilities are quantified.

3.2 Definitions and Innovation Model

Innovations

Innovations are defined from the customer’s point of view. An innovation exists if the customer gains value added from the “new” product / service, which is the case when a new function (or a new combination of existing functions) is provided and / or existing functions are provided at significantly lower cost. This may involve innovations in products / services, in processes or in business models.

Top Innovators

Top innovators have been identified by evaluating the innovation management of all participating companies using Arthur D. Little’s Innovation Index, which is based on a variety of qualitative and quantitative

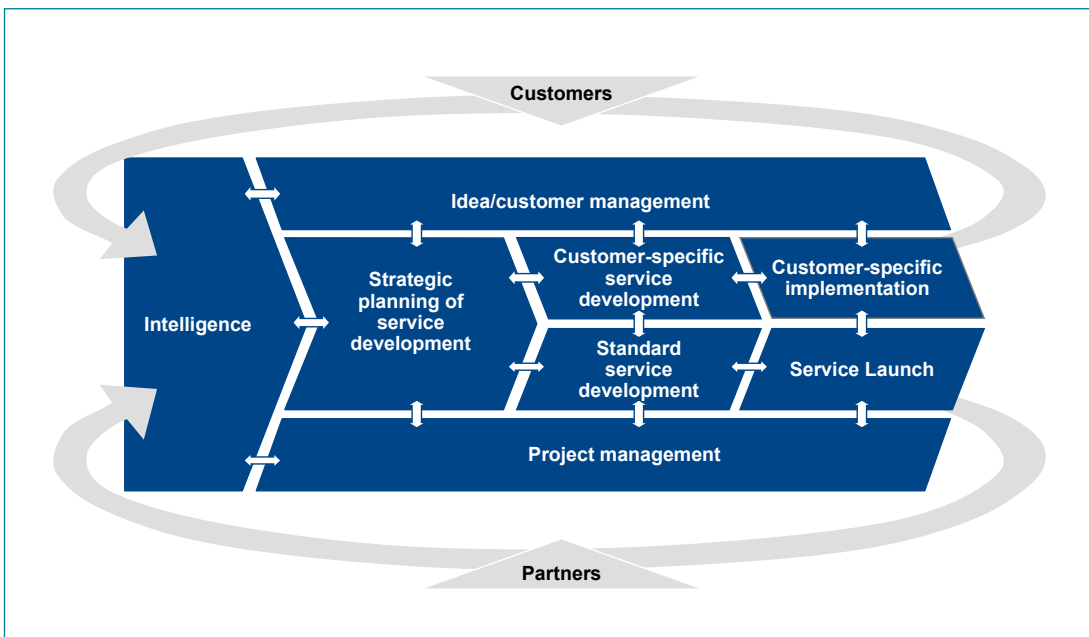


Figure 2: Logistics innovation process model

criteria. *Top innovators* are characterized by an organization that has implemented and internalized an effective and efficient innovation management system.

Logistics Innovation Process Model

In order to illustrate and differentiate the variety of innovation processes within logistics, the Arthur D. Little Logistics Innovation Process Model was used (figure 2).

3.3 Study Scope and Methodology

103 companies from all points of the logistics value chain participated in this European study. The participating companies are *logistics service providers (service providers)* and *shippers* from industrial and trading companies, who cover 15 European countries with a focus on Western Europe (figure 3).

All participants completed a hypothesis-driven questionnaire with 15 open and multiple-choice batteries of questions. The current situation (2007) and expected future developments (2012) were assessed. In addition, case study examples were identified and researched.

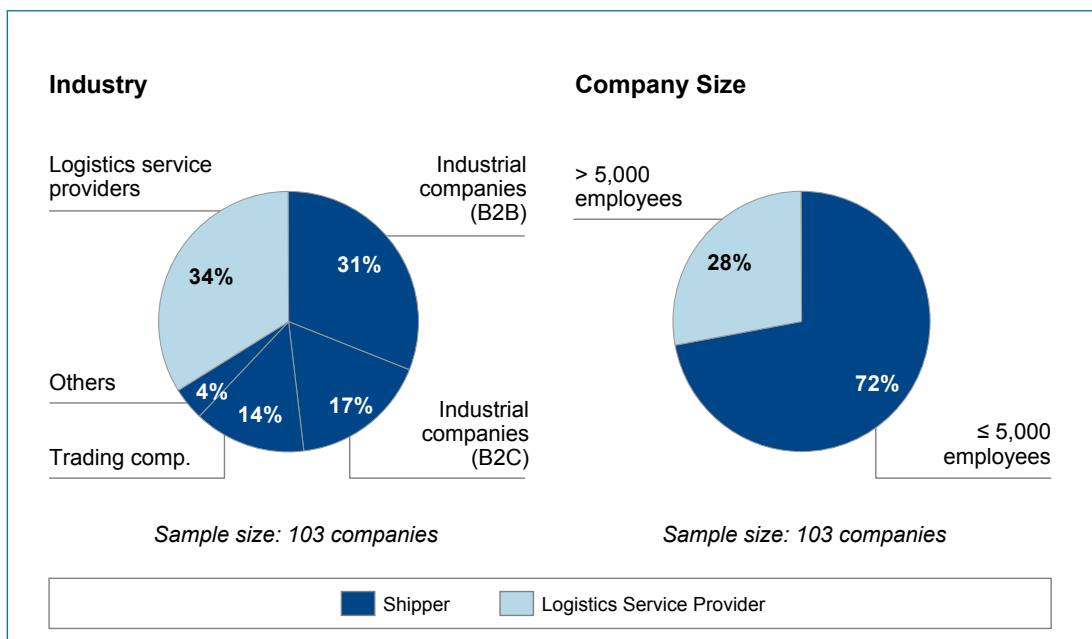


Figure 3: Industry and company size of the participating companies

4

Detailed Results of the Study

4.1 Identification of Top Innovators

As a starting point, *top innovators* within the participating companies at *shippers* and *logistics service providers* were identified. For this purpose the evaluation results based on the Arthur D. Little Innovation Index were mapped with the logistics cost for *shippers* and the EBIT margin for *logistics service providers* as the relevant output and success measures (figure 4).

Companies with a high Innovation Index, meaning companies with an effective and efficient innovation management system, generally have lower logistics costs or higher EBIT margins.

4.2 Innovation Objectives and Relevance in Logistics

Today the most important objectives for innovation are the modularization of logistics services plus reduction of logistics costs. However, this importance will decline significantly in the future. The generation of new services to cover existing requirements and to stimulate new ones is likely to become the most important innovation objective (figure 5).

Price and reliability are no longer the only buying criteria, but will develop into pre-requisites for contracting standard logistics services. *Shippers* are the prime drivers of this trend; they realize the importance of innovation ability as a deal-clincher that will increase in significance. As a result their main focus will shift away from cost-oriented innovation activities towards a customer-oriented approach (figure 6).

In contrast to *shippers*, *logistics service providers* believe that price is more impor-

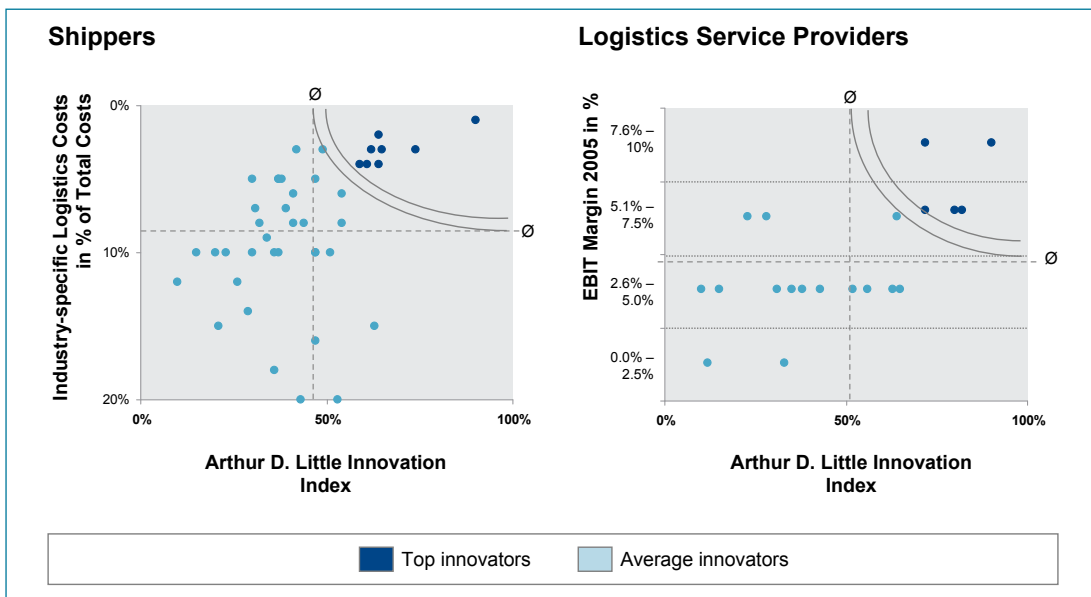


Figure 4: *Top innovators* among *shippers* and *logistics service providers*

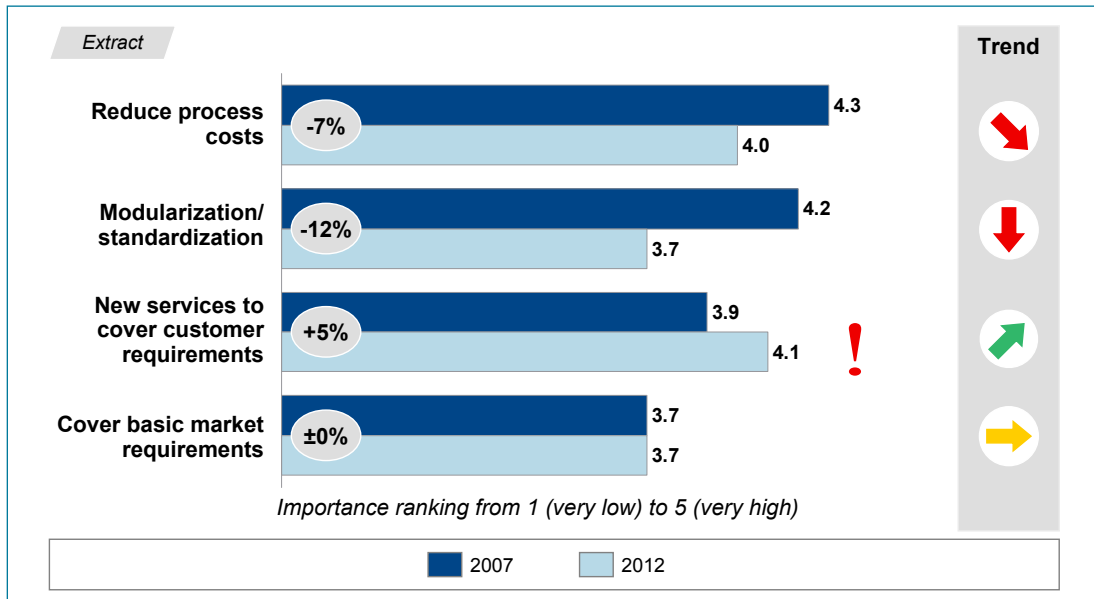


Figure 5: Innovation objectives

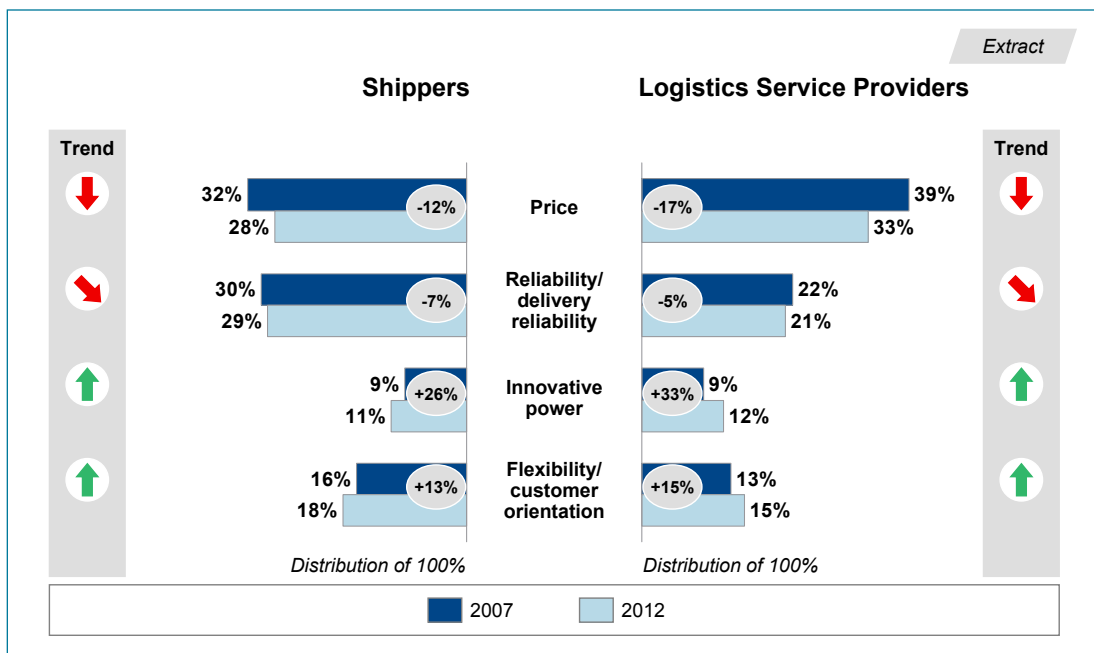


Figure 6: Criteria for tendering process (*shippers / logistics service providers*)

tant. However they realize as well that innovation ability and customer orientation will gain importance in the future. Higher prices can be increasingly justified by innovative solutions, whereas the differentiation potential of price will be only limited.

4.3 Organization and Scope of Innovation Activities in Logistics

Organization of Innovation Activities

The responsibility for innovation management is more institutionalized at *shippers*, but more often allocated within top management to *logistics service providers*. However, over one-fifth of all *logistics*

service providers do not provide adequate and clear guidance for their innovation management activities (figure 7).

Top innovators primarily anchor their innovation activities in a dedicated line function or attach it to a line function close to the customer. This strong customer orientation is often ensured by positioning innovation management in Sales and Marketing. *Average innovators* use “one-man” staff functions, which mostly limit the impact within the organization (figure 8).

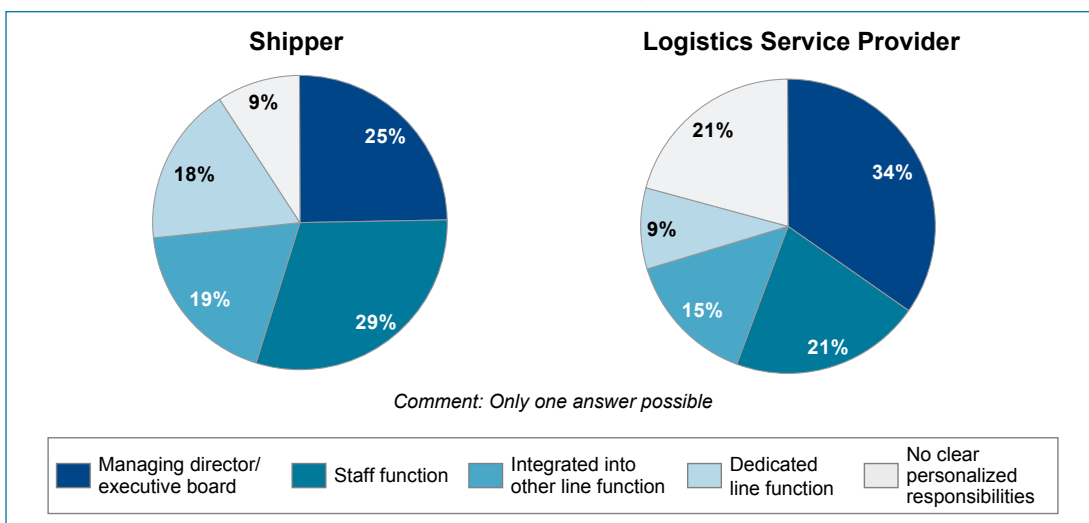


Figure 7: Responsibilities for innovation management

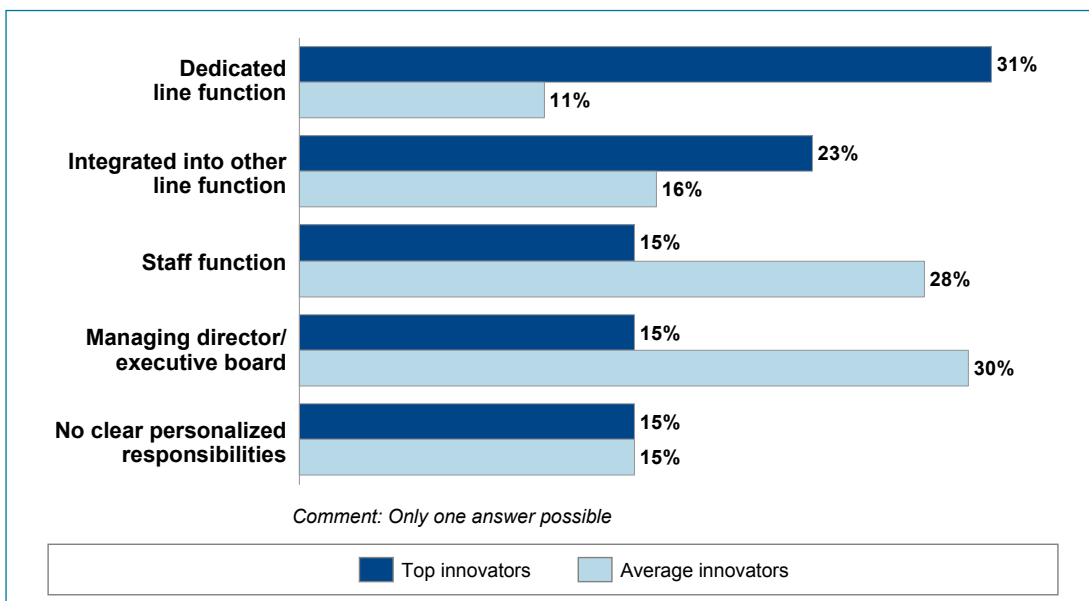


Figure 8: Responsibilities for innovation management

Scope of Innovation Activities

Top innovators within *shippers* concentrate on technological innovation, whereas method and process-related innovation is left to *service providers*. Moreover *top innovators* increasingly concentrate on technology development which is often performed in co-operations and partnerships. The resulting applications are often developed in cooperation with *service providers*.

Top innovators within *service providers* engage in method and process-related innovation, in line with internal modularization and standardization of products / services. Furthermore, they focus on technological development rather than on application development. However, detailed analyses and interviews show that optimization of processes alone is viewed as new business models and strategies. That is why the development of radically new business models and strategies usually receives little or no attention (figure 9).

Insufficient human and capital resources are named as the main reasons for the failure to perform innovation activities at all participating companies. *Top innovators* apply a more efficient process for selecting

ideas and also display more efficient utilization of resources. They deal more consciously with the topic of innovation and also have better access to relevant know-how and competences.

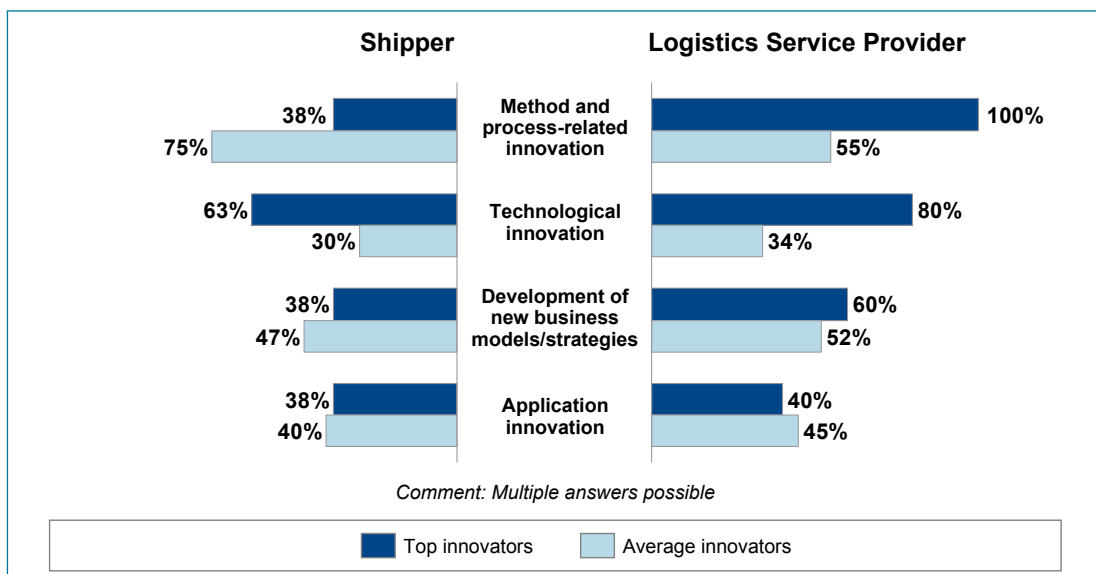


Figure 9: Innovation management tasks (*shippers* / *logistics service providers*)

4.4 Triggers and Drivers for Innovations in Logistics

Triggers of Innovations

Innovation projects in logistics can be characterized by their degree of novelty and their degree of standardization. By means of the degree of standardization it is possible to differentiate between customer specific and customer independent problems as the trigger of innovation. The degree of novelty clarifies the extent of change.

Based on the insights derived from this study, we can usually differentiate between 5 kinds of innovation project types (figure 10):

standardized logistics services or modules even without a direct link to customer projects.

Project types ② and ③ are innovations characterized by new solutions. These “greenfield” innovations usually involve more radical / genuine innovations.

Finally project type ⑤ cannot be regarded as an innovation in the defined sense because it rather represents continuous improvements (CIP = continuous improvement process).

Only the smallest proportion consists of strategically planned new developments without direct connection to specific customer projects. Innovation projects at *shippers* are usually initiated as customer

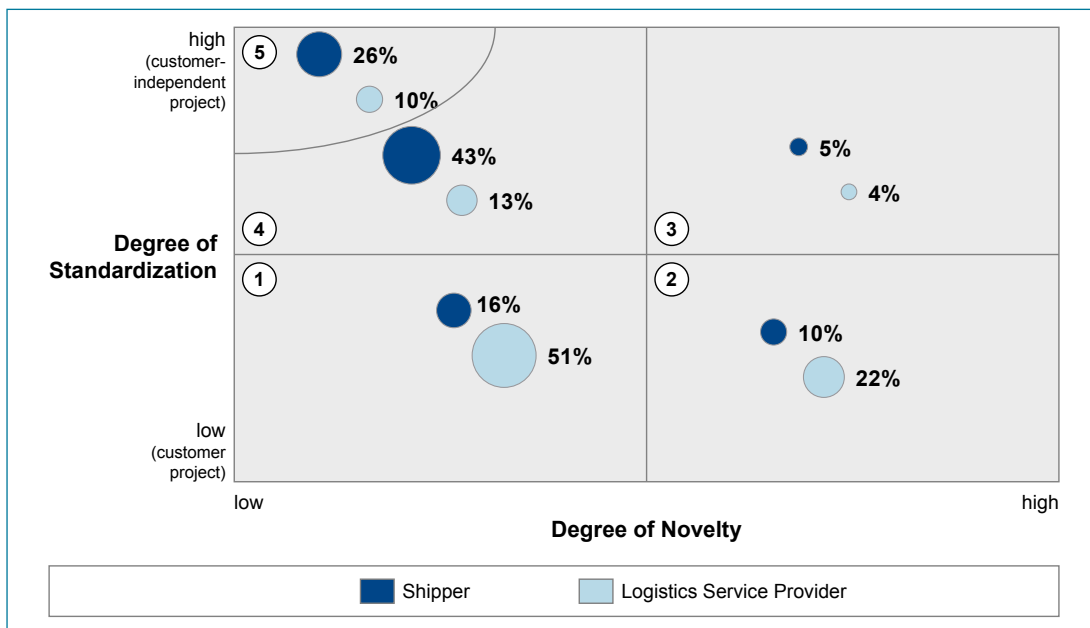


Figure 10: Innovation project types

Project types ① and ④ are innovations characterized by the advancement of existing solutions. These “brownfield” innovations usually consist of incremental changes. In case of customer specific projects ① this usually means the adaptation or advancement of existing solutions to fulfill specific customer requirements. In the other case ④, knowledge generated through reference projects or Best Practice examples can be used to develop stan-

independent projects based on internal market and technology intelligence. By contrast innovation projects at *service providers* are often results or by-products of customer-specific projects.

Initiators of Innovations

While the majority of *shippers* see themselves as the source of innovation ideas, from the *logistics service providers’* point

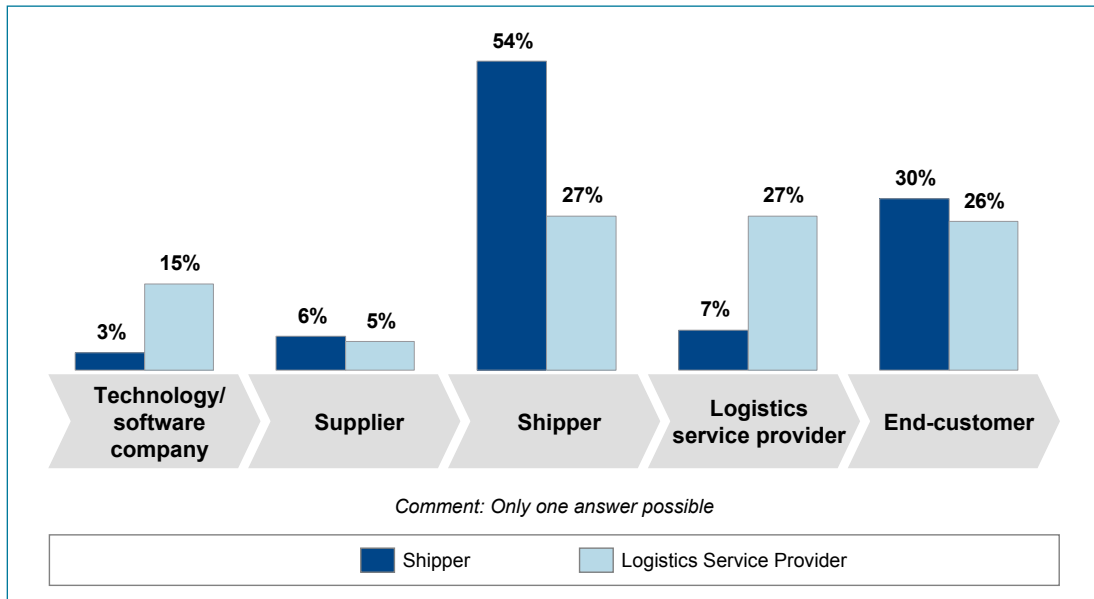


Figure 11: Initiators of innovations

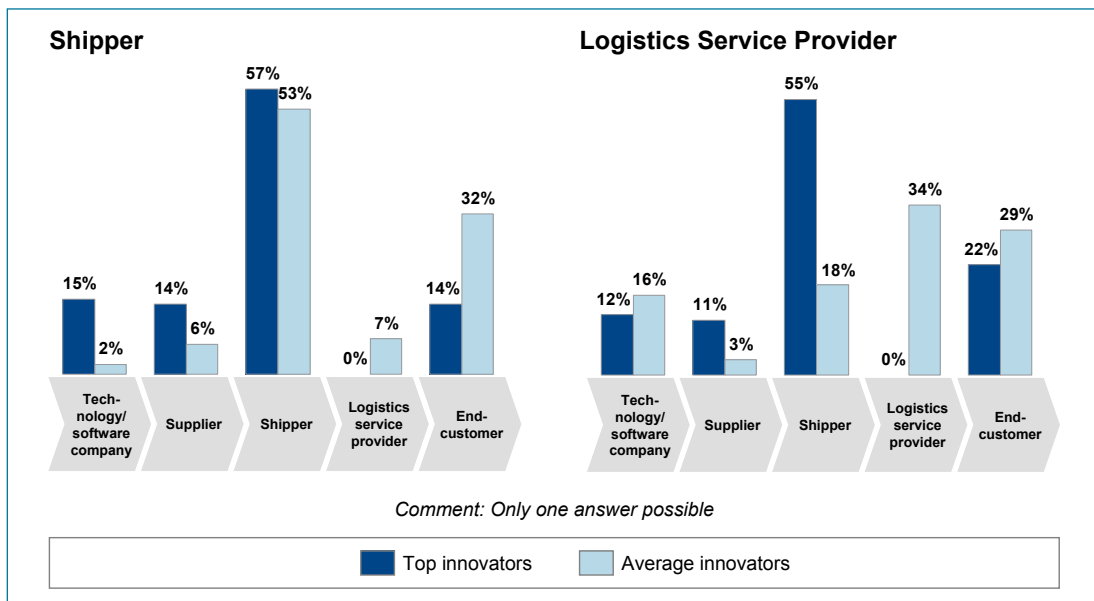


Figure 12: Initiators of innovations (*shippers* / *logistics service providers*)

of view all value chain participants are involved. Both *shippers* and *service providers* try to gather ideas from end-customers (customer orientation, figure 11).

Top innovators amongst *shippers* involve their suppliers when looking for innovation ideas and therefore make use of the

innovation competencies of their suppliers. Using this “innovation network” they generate their own ideas and subsequently often benefit from a “first mover” advantage. By contrast *average innovators* orient themselves to the market (incremental innovation), thus following a “me-too” strategy.

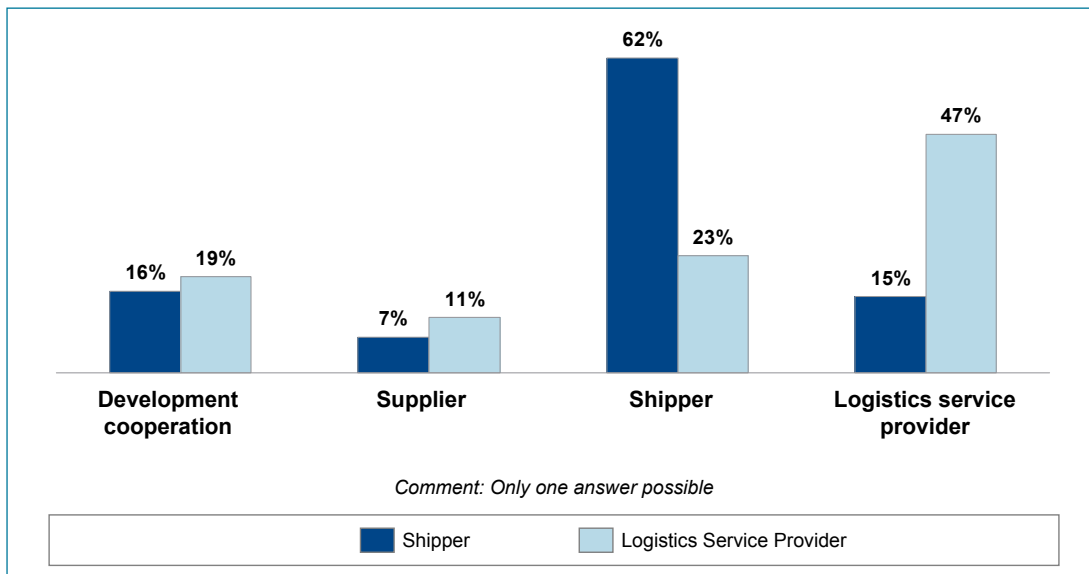


Figure 13: Drivers of innovations (*shippers / logistics service providers*)

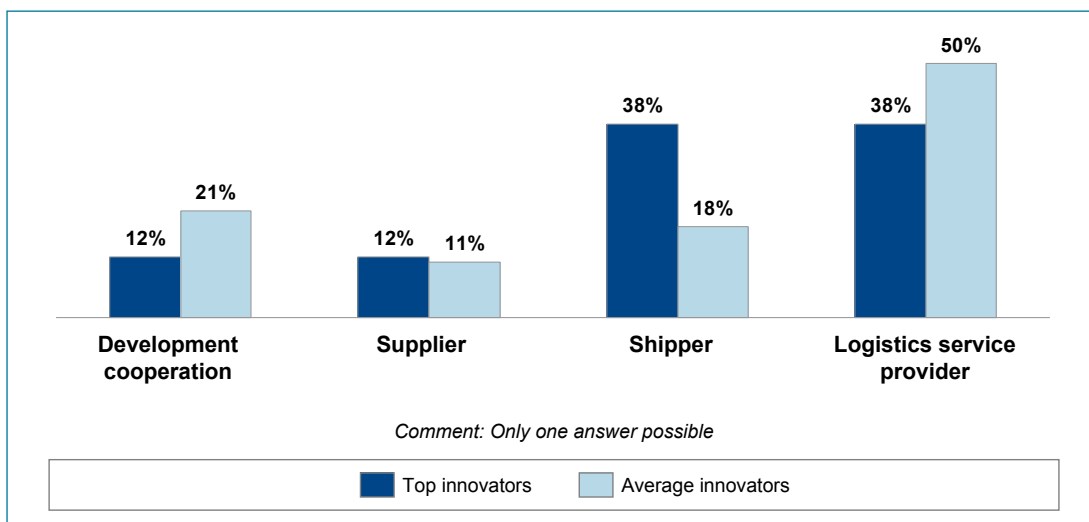


Figure 14: Drivers of innovations (*logistics service providers*)

Top innovators amongst *logistics service providers* are more customer-oriented than *average innovators*: they are better at picking up and implementing ideas at their *shippers*. *Average innovators*, on the other hand, try to generate ideas internally or from the end-customer’s side (figure 12).

Impulses for innovation at *logistics service providers* should be driven externally; internal impulses are rarely successful.

Drivers of Innovation

Shippers and *logistics service providers* each see themselves in the driving role for implementing innovations (figure 13).

Innovation ideas at *shippers* are mostly driven internally, showing that the success of critical development projects is not left to third-party players. Being aware of the key role of the *shippers*, *service providers* pursue innovation in cooperation with

them and integrate them continuously into the process (figure 14).

Average innovators amongst *service providers* try to pursue innovation internally. However, resources and competences are frequently overestimated and initiatives tend to fail.

4.5 Innovation Strategy and Process in Logistics

Innovation Process

Innovations in logistics can reach the market in four distinct ways. The logistics innovation process model can be used to illustrate the alternatives (figure 15).

If a two-step process is performed the degree of novelty is usually determined by the order of steps. “Greenfield” innovations, usually with a higher degree of novelty, are carried out in step order A then B (③ Development of modules / standards, then customization):

- Step A: Service modules / standards are defined without a customer project
- Step B: The modules / standards developed are adjusted to be customer-specific

“Brownfield” innovations, usually with a lower degree of novelty, reach the market in step order B then A (④ Development of customer-specific solutions, then modules / standards):

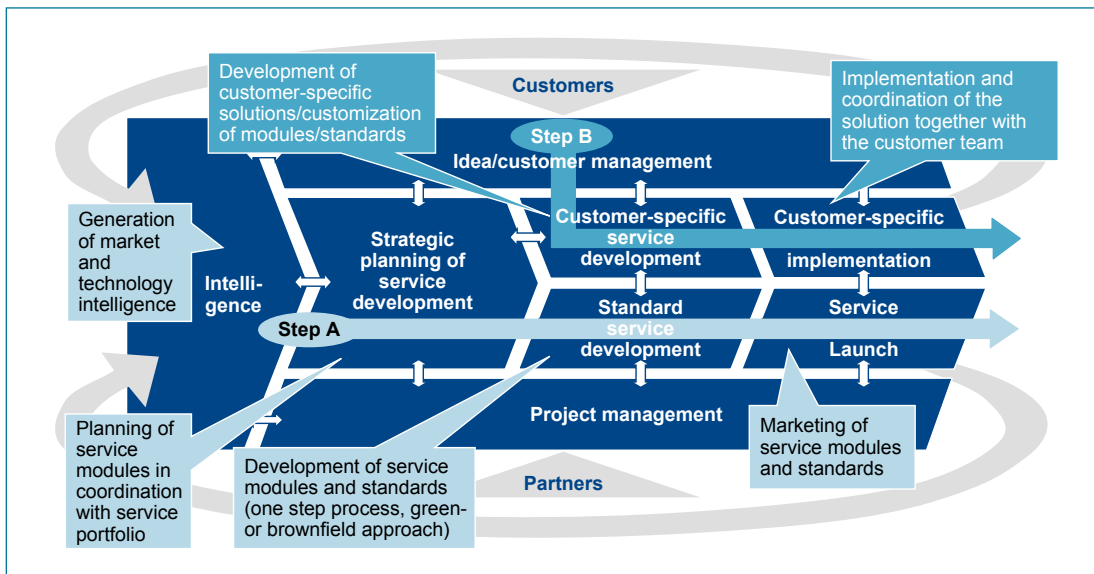


Figure 15: Logistics innovation process model and steps

The steps A and B can be performed as single steps (one-step process) or in a sequence of steps (two-step process). If a one-step process is applied, either step A (① Development of modules / standards, no customization) or step B (② Development of customer-specific solutions, no modules / standards) is performed as a single activity (see figure 16).

- Step B: Definition of customer-specific solutions
- Step A: Definition of marketable modules / standards based on customer projects

Fundamental Differences

The innovation approaches of *shippers* and *service providers* are fundamentally different but mutually complementary. The approach of *shippers* is primarily internally driven based on strategic planning. *Logistics service providers* follow an approach that is almost exclusively market-driven, meaning that it is triggered by the customers in question (their *shippers*) and a concrete customer requirement or problem (figure 16).

Logistics service providers, by contrast, predominantly conduct customer-specific development projects and leave it at that ②. A minority use the experiences they gain to develop customer-specific solutions further into reusable modules / standards ④. The others leave this potential untapped ③. Own, internal impulses for customer-independent solutions, driven by the providers' own market and technology intelligence, can only rarely be observed ① and ③.

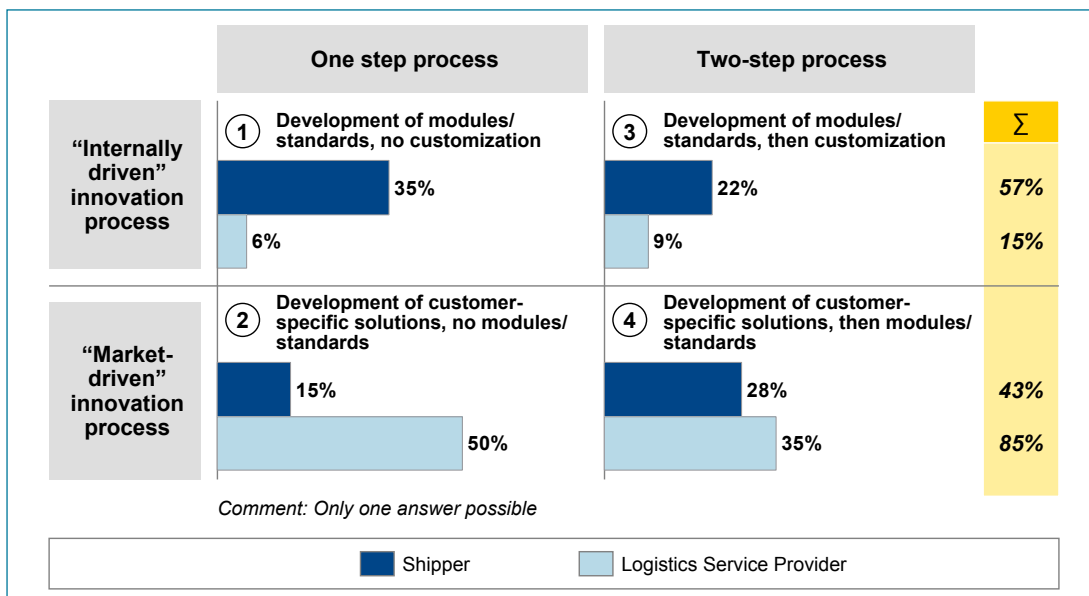


Figure 16: Innovation logic

The overwhelming majority of *shippers* are aiming for development of customer-independent product / service or process standards. Where a customer-specific solution was the initial starting point for the development activities, the majority of *shippers* derive modules / standards out of these solutions ④. Only about a third of them fail to capitalize on the experiences they gain ②.

Shippers aim at standards in order to manage the related complexity. Less than 40% of the initially developed standards are later customized ③.

Where modules / standards are developed, they are customized by the majority of *service providers*, whereas the majority of *shippers* does not customize the modules / standards they have developed initially ③.

The Innovation Process of Shippers

Top innovators amongst *shippers* conduct structured product / service development in collaboration with Strategic Planning aimed at the development of standard solutions ①. They follow a one step

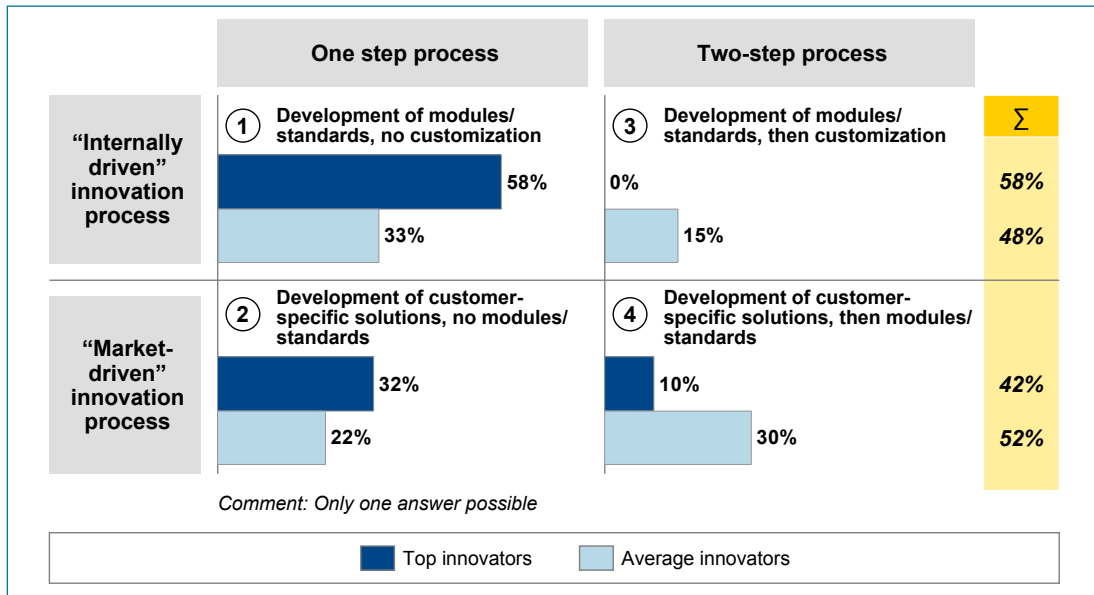


Figure 17: Innovation logic (*shippers*)

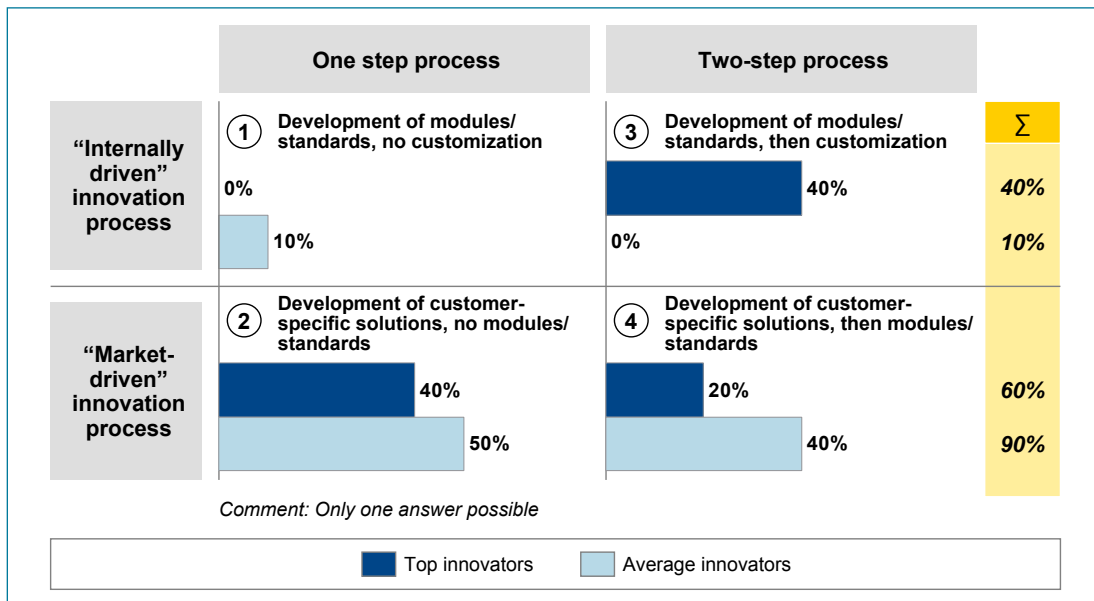


Figure 18: Innovation logic (*logistics service providers*)

innovation process, define the areas for innovation by applying upstream strategic planning (push principle) and develop customer-specific solutions e.g. based on factory / country demands ②. Best Practice concepts are developed without customization ① and the service launch is coordinated centrally and rolled out throughout the whole company.

By contrast *average innovators* amongst *shippers* often conduct a market- and experience-driven two-step process for their product / service development. Fields for innovations are defined or enforced by customers and not developed by strategic planning (pull principle). Customer-specific solutions remain as single solutions ② or are further developed into reusable

modules / standards ④. Standard development without customization is significant ① but does not reach the levels of *top innovators* (figure 17).

The Innovation Process of Logistics Service Providers

“One size fits all” modules and standards are not relevant for *service providers* ①. *Service providers* often develop customer-specific single solutions without tapping into any further commercialization potential ②. *Service providers* should therefore strive for a two-step process. Incremental innovations can be reached by the reuse of customer-specific solutions ④. *Top innovators* increasingly create modules and standards for subsequent mass customization ③ (figure 18).

Integration of Logistics Service Providers in the Process of Shippers

Top innovators amongst *shippers* involve *logistics service providers* in their innovation process at an early stage, using their innovation ability for specific topics. Innovative *service providers* can therefore position themselves far more effectively, which is already being done by *top innovators* (figure 19).

It becomes clear that with the help of innovation, *top innovators* amongst *service providers* can position themselves in higher margin businesses. All others are integrated at a later stage and face higher pressure on their margins.

Admittedly most *service providers* are integrated into the process at a quite late

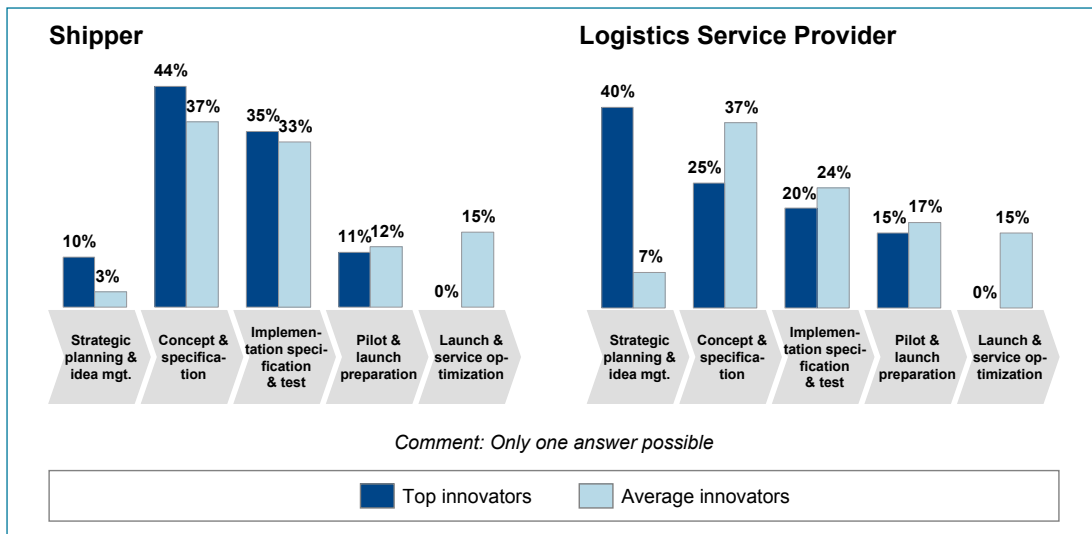


Figure 19: Start of involvement in the *shippers*' innovation process (*shippers* / *logistics service providers*)

The two-step, iterative process enables *top innovators* amongst *service providers* to achieve a high level of customer orientation. They increasingly use the cost efficiencies of modularization / standardization in combination with subsequent mass customization. By developing service standards they also tap more effectively into the commercialization potential.

stage, because *top innovators* among *shippers* regard logistics as their own core competence and therefore integrate only selected strategic partners into their innovation process. Insufficient concept design and project management competences are additional reasons stated by *shippers* for the late involvement of their *service providers*.

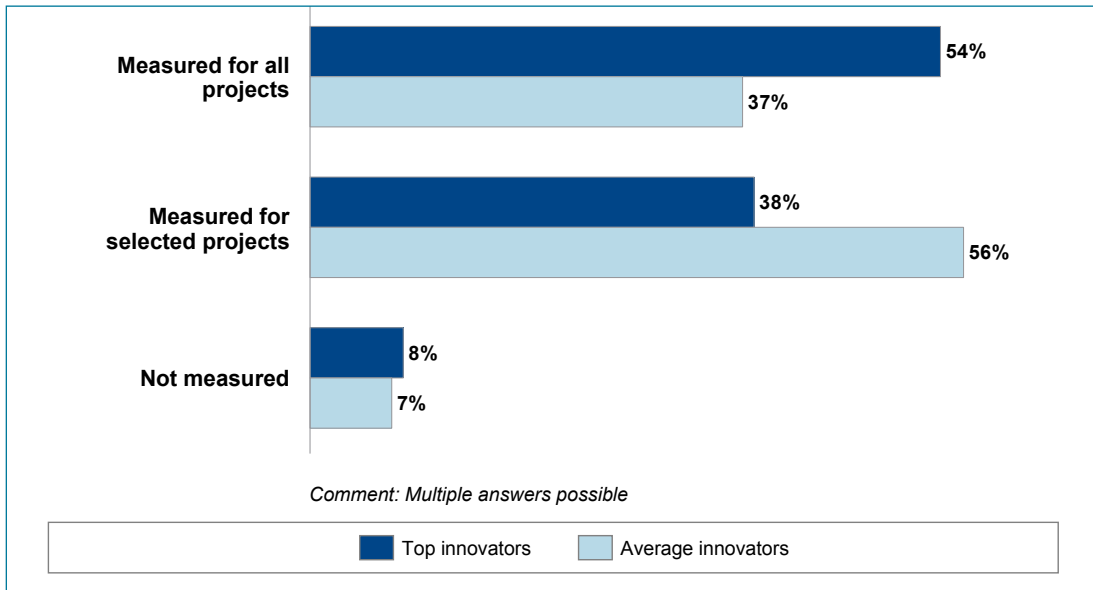


Figure 20: Measurement of success within innovation process

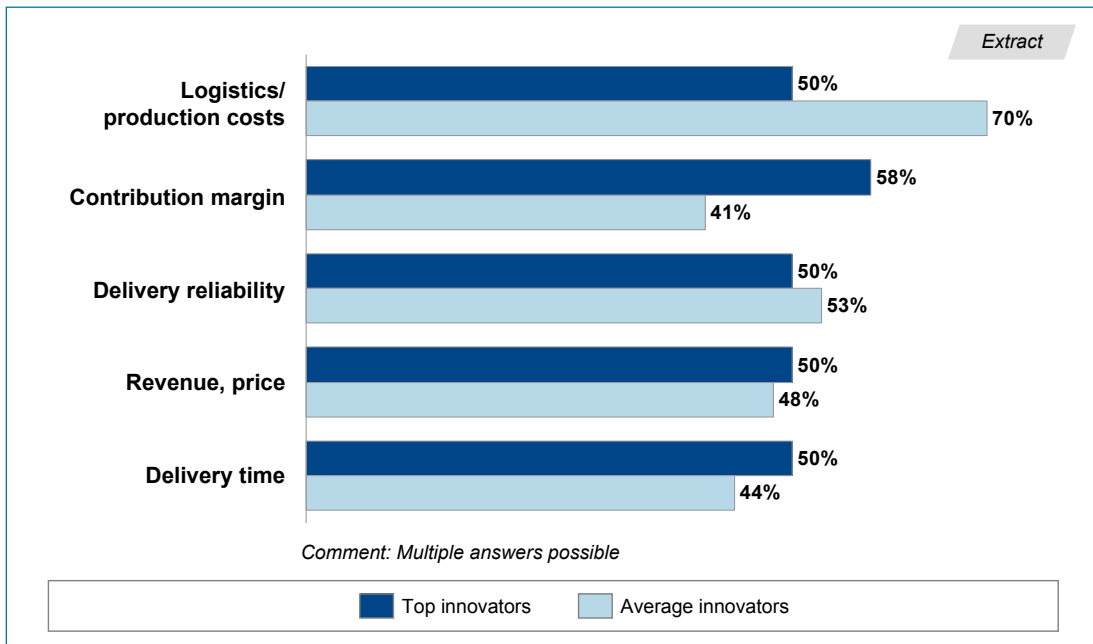


Figure 21: Business rationale for innovation projects

Measurement of Innovation Success

Top innovators are increasingly measuring the success of their innovation projects, opening up enhanced transparency and controlling options (figure 20). Their experience shows that “if it’s not being measured it’s not getting done”.

Top innovators especially measure the value added of their logistics by focusing simultaneously on costs and contribution margins. *Average innovators* mainly focus on costs; performance-related value added is measured only infrequently (figure 21).

The success measures and business rationales have a clear relation to the innovation objectives as stated at the beginning. *Top innovators* are already ahead in terms of adjusting to the future shift from cost-oriented towards customer-oriented innovation objectives. They focus on the overall value added instead of cost only.

4.6 Fields of Innovation in Logistics

Adaptable and flexible logistics systems and networks have the highest absolute potential for innovation within logistics from the participants’ point of view. In particular, cooperation across the value chain is regarded as crucial for the realization of improvement potentials.

Virtual reality (such as for digital plant planning) and automated control (e.g. by agent systems, RFID etc.) are seen as the most important growth areas for innovations. The key barriers for virtual reality, however, include insufficient degree of detail and reusability of models.

Internal and external material flow technologies are regarded as the least important in both relative and absolute terms.

The fields of innovation can be mapped to the specific technology lifecycle (figure 22) with the help of the determining factors of market penetration and degree of technological maturity. The strategy employed needs to be adapted to the specific lifecycle phase of the technology:

- “Young” technologies should be developed with external partners.
- Growing technologies require a clear market entry strategy as well as a strategy for expansion.
- Mature technologies require new applications and an optimization of processes.

Shippers and *service providers* basically agree when it comes to the lifecycle stages of virtual reality and logistics systems and networks. The expected growth areas and potentials are consistent with these views. In terms of the other fields, the judgments of the two groups differ significantly in some areas.

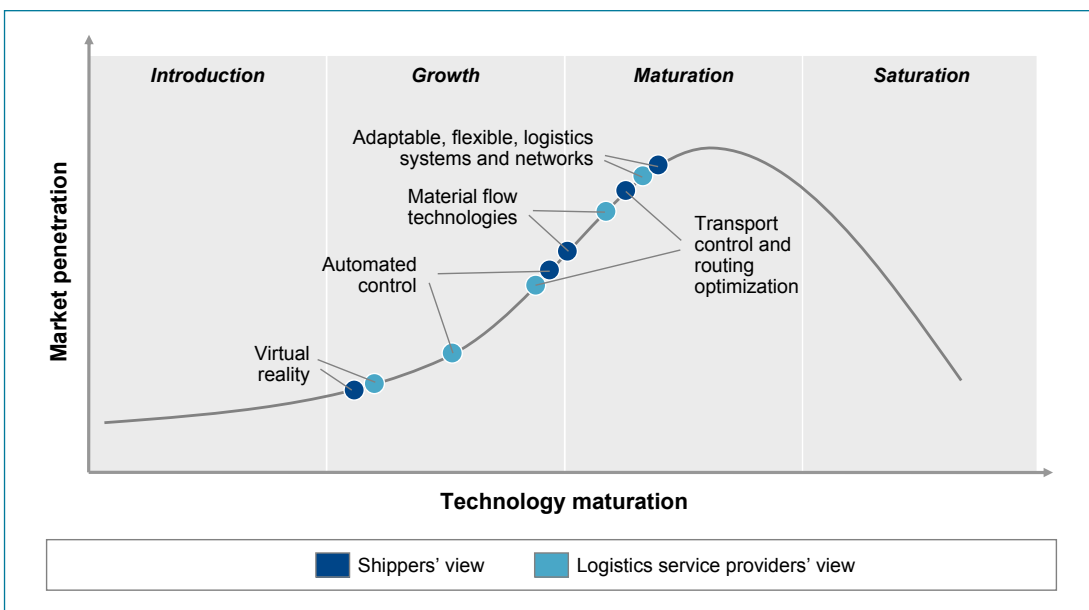


Figure 22: Technology lifecycle

4.7 Key Success Factors for Innovations in Logistics

Key success factors for *top innovators* amongst *shippers* are a structured generation of market / technological know-how and stringent project management. These factors also have the highest degree of implementation.

For *average innovators* amongst *shippers*, a clear strategy for their logistics service offerings is of paramount importance. However, their degree of implementation lags behind in 2 out of 3 factors (figure 23).

Key success factors for *top innovators* amongst *logistics service providers* are again, the structured generation of market / technological know-how and the early and ongoing involvement of their customers. Consequently they attribute the highest degree of implementation to the most important success factors. By contrast, *average innovators* amongst *logistics service providers* focus on development

of strategy and project management competencies, but the degree of implementation is far behind that of *top innovators* (figure 24).

With respect to the degree of implementation of key success factors, *top innovators* are far ahead of *average innovators*, meaning that *average innovators* face an implementation problem.

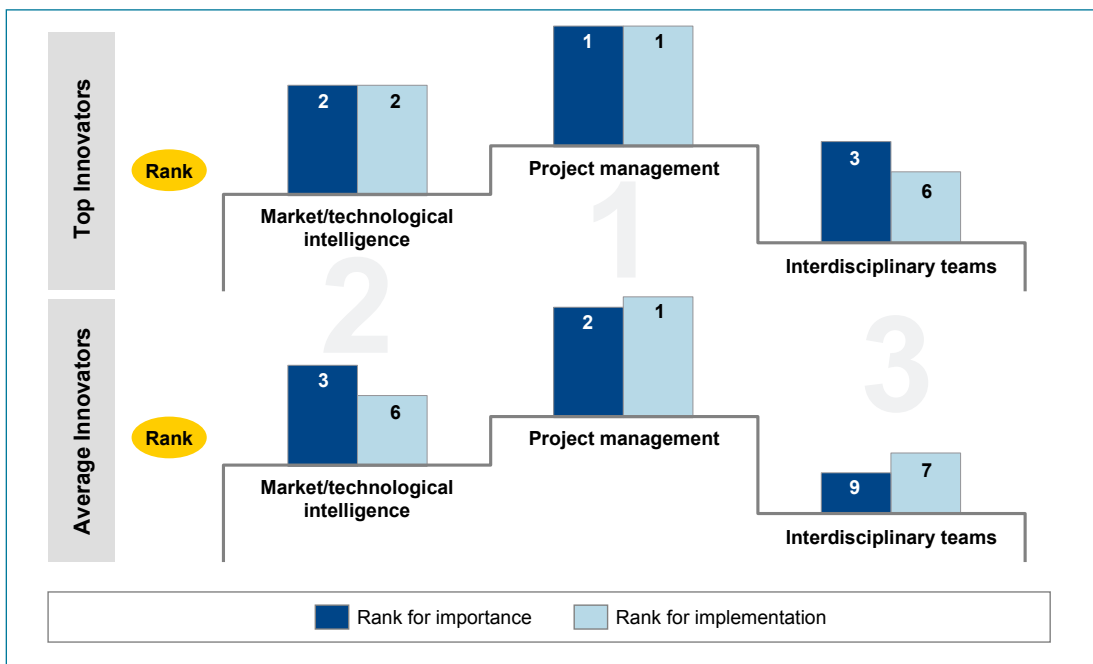


Figure 23: Key success factors and implementation (*shippers*)

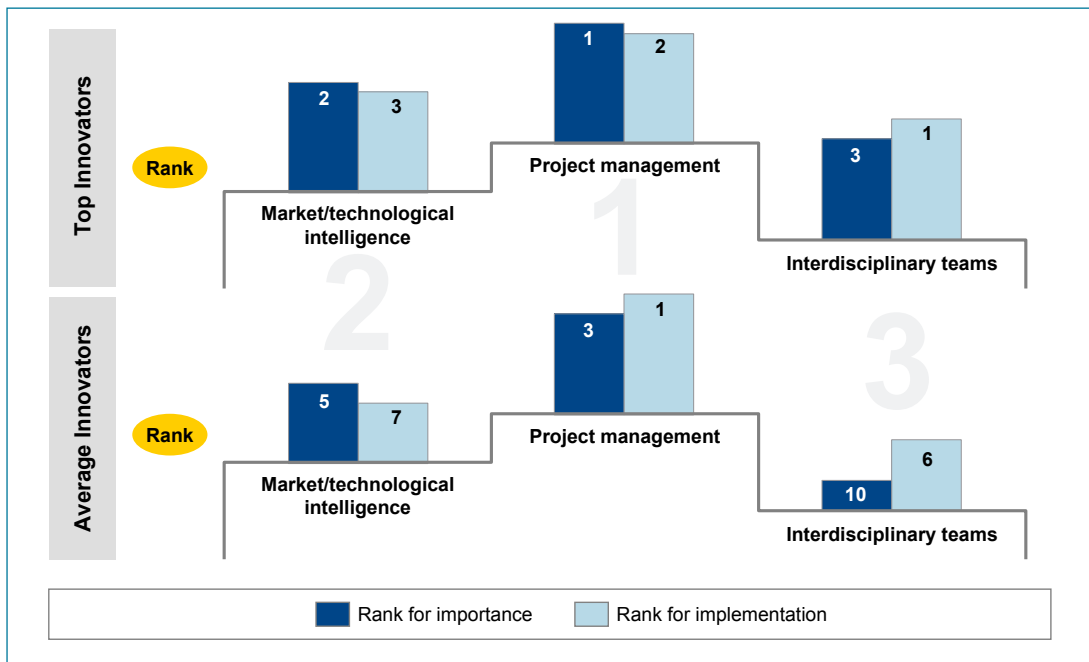


Figure 24: Key success factors and implementation (*logistics service providers*)

4.8 Innovation Excellence Improvement Potential in Logistics

An optimized innovation management system can boost company success – as measured by EBIT margin – by an average of 3 to 8%-points.

Shippers believe EBIT margins could increase by 4.4%-points if innovation management is optimized. This self-assessment regarding improvement potential seems realistic; positive effects on the EBIT margin are known to *top* and *average innovators* (figure 25).

Top innovators amongst the *logistics service providers* believe they can even realize an average increase of 8.5%-points in their EBIT margins. *Average innovators* amongst *logistics service providers* consider the potential to be much lower, although still significant; with a 2.7%-point increase in EBIT margins (figure 26).

The potential for reducing logistics costs is between 7% and 14% for all *shippers* and *logistics service providers*. For performance-related indicators such as turnover, delivery reliability and delivery time, all participants expect a significant improvement potential.

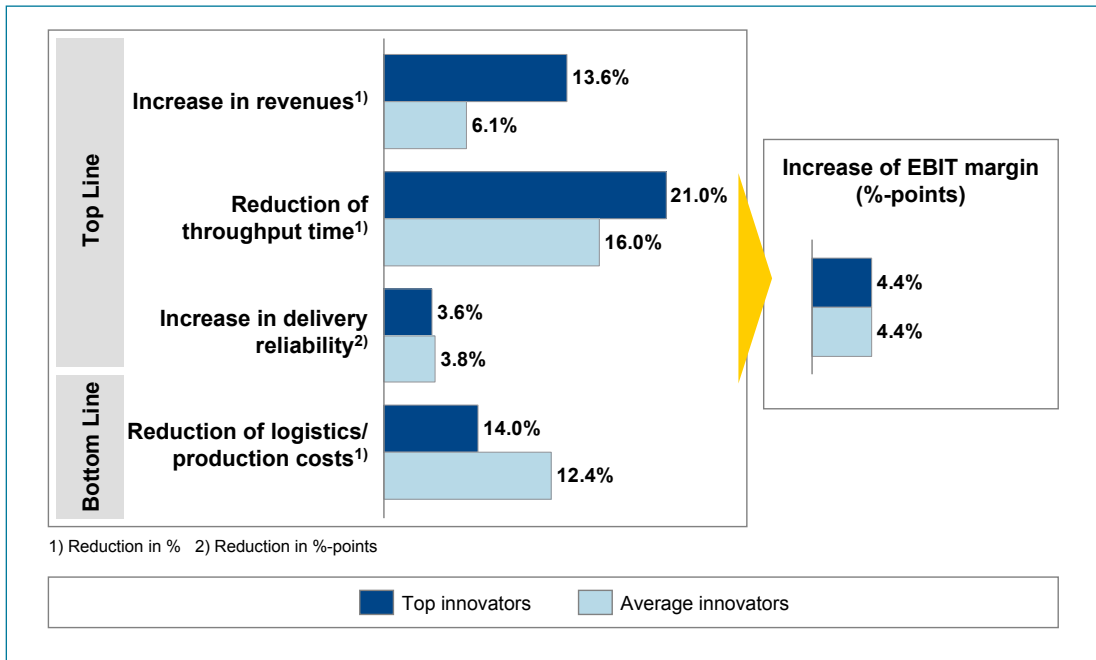


Figure 25: Improvement potential compared to as-is (*shippers*)

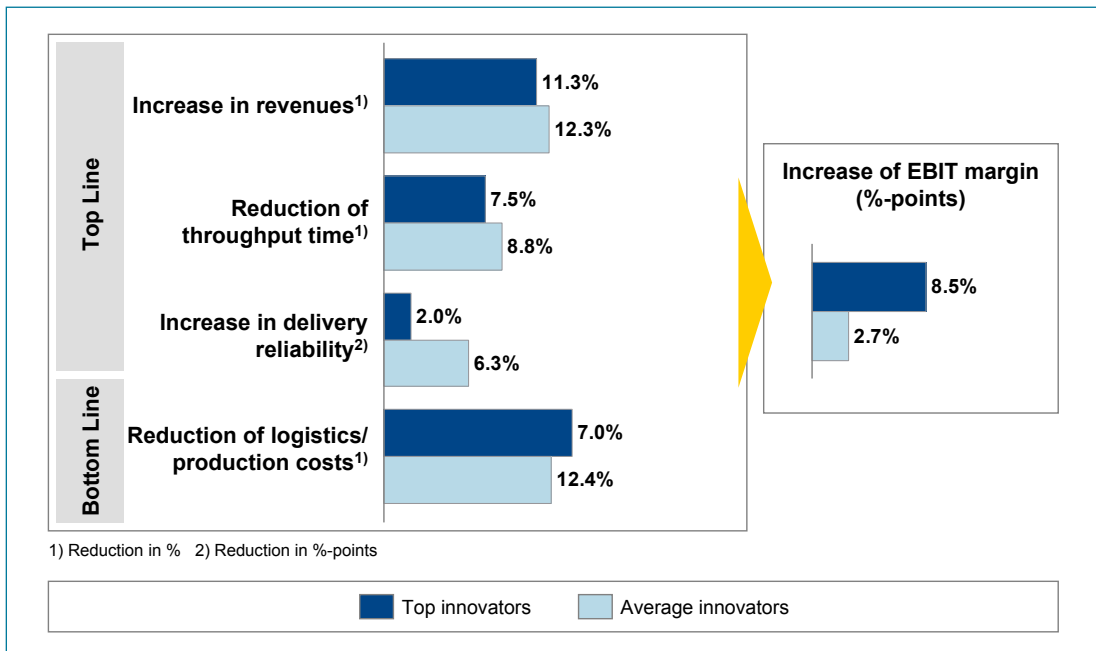


Figure 26: Improvement potential compared to as-is (*logistics service providers*)

5

Case Studies

5.1 Rodenstock

Rodenstock is Germany’s leading manufacturer of ophthalmic lenses and spectacles frames. The company is based in Munich and is represented in more than 80 countries with sales subsidiaries and distribution partners. In 2006 Rodenstock generated with a worldwide workforce of approximately 4,600 a turnover amounting to € 371 million.

The initial situation of Rodenstock in 2000 was characterized by 12 production sites for lenses across Europe. For historical reasons the production processes and inventory management have been strongly oriented to local market conditions.

Logistics have thus been characterized by non-standardized processes and operations plus sparse international communication and coordination of activities, combined with a lack of standardized performance indicators and measurement systems.

This initial situation resulted in under-performance in terms of production costs, logistics performance and brand appearance (inconsistency). To address these issues an innovation project within the area of logistics was set up. Before starting the innovation project, the concrete objectives were defined, for example: reduce production costs by 20%, improve delivery reliability to industry standard: consistently between 96 – 98%, etc.

Due to substantial enhancements to the logistics processes, Rodenstock was now able to create a production network represented by 3 sites in Europe. The improvement of reliable target figures was particularly critical for this well-functioning production network. All activities that did not need to be performed locally were centralized (e.g. central warehouse). In the new structure, European shops are mainly supplied directly from central production / warehouse (figure 27).

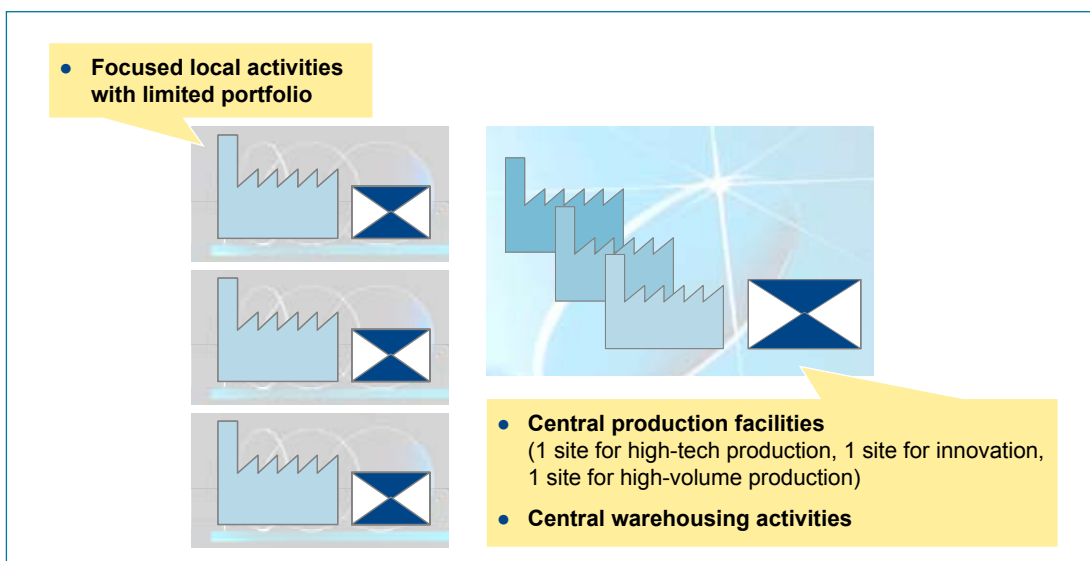


Figure 27: Illustration of new logistics concept

Reductions in production costs and significantly improved delivery times within Rodenstock accompanied the changes to the logistics concept.

Rodenstock identified the following success factors that were key to the achievement of the described changes and improvements:

- Clear strategy for logistics services/products:

It is critical to have a clear-cut and commonly understood concept and plan for logistics structures and processes

- Utilization of interdisciplinary teams:

Interdisciplinary teams simplify communication of project news within the organization and justification for change/restructuring. Moreover, market know-how, market requirements and internal data are always available

“By winning a recent tender, Rodenstock increased its sales by 10% – without the new logistics concept the customer’s requirements would not have been met!”

5.2 Valeo

Valeo is one of the world’s top 10 suppliers of components, systems and modules for the automotive industry, with annual operating revenues of € 10 billion. Present in 29 countries, the group employs 69,800 people at 129 production sites, 68 R&D centers and 9 distribution platforms. The aftermarket activities of the Valeo Group are conducted by a division called Valeo Service, which accounts for 18% of the total turnover and has two branches: Independent Aftermarket (distributors, garages, auto-centers) and Original Equipment Spares.

This case analyzes the situation for the Valeo Service distribution center for Iberia (Spain and Portugal).

Valeo offers 176 product families grouped in 12 lines (climate control, transmissions, wiper systems, lighting etc.) with items that vary enormously in size and weight. Moreover, the individual orders from clients also vary in their item composition, resulting in additional complication in picking activity.

The initial situation faced by Valeo Service was characterized by high stock levels and poor delivery performance. In an effort to broaden the product coverage and service to customers, 2,500 new products were launched. This resulted in a total of almost 15,000 SKUs (stock keeping units). In 2006 Valeo Service decided to address the identified issues by focusing its efforts on improving customer satisfaction through greater emphasis on logistics excellence and better service levels while, at the same time, improving the financial situation.

The objective was to be achieved by addressing the two areas of inventory management and warehouse automation. At the same time, all activities were to be integrated within the Total Quality approach of the Valeo Group.

Various changes were applied to the planning process to achieve the objectives. For example monthly Sales, Inventory and Operations Planning (SIOP) meetings were held by Sales, Marketing, Finance, Logistics and Human Resources in order to generate a sales forecast at product family level (for 3, 6 and 12 months) and to integrate the input of market conditions (promotions, competitors’ actions) to override automatic explosion to SKU level. In addition to the changes in the inventory management process, other projects were

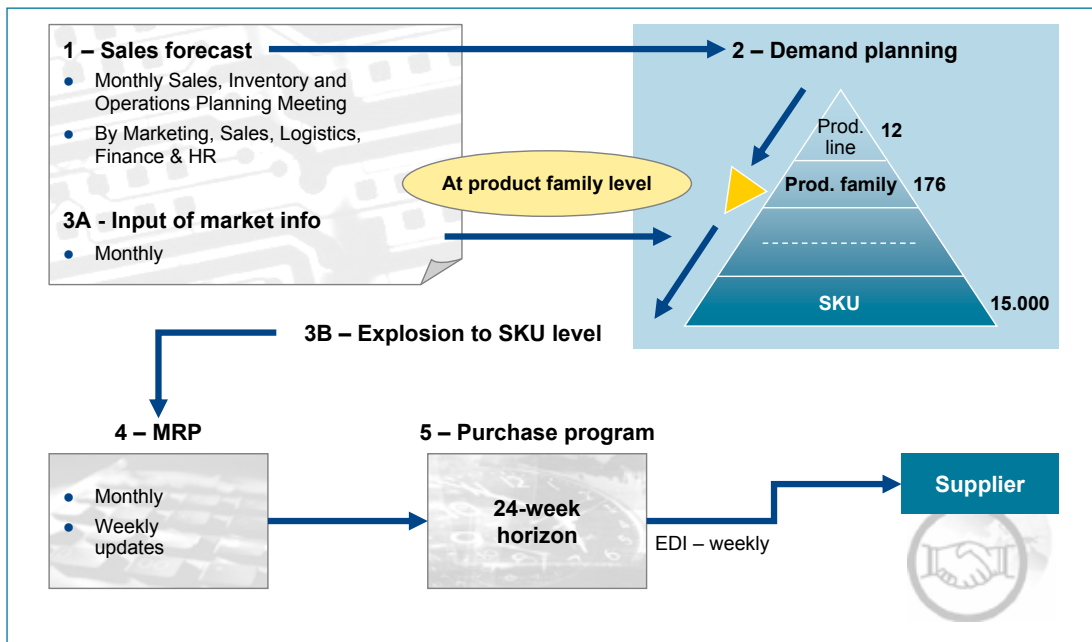


Figure 28: Illustration of the new planning concept

launched within the warehouse activities with the main goal of reducing the error levels in the fulfillment rates (figure 28).

Valeo identified the following success factors that were key to the achievement of the described changes and improvements:

- Full commitment and involvement of executive levels was critical.
- During the project, the “Quick Response Quality Control (QRQC) approach” was utilized, so that any problem which arose was immediately identified and analyzed on the spot by the parties involved, and corrective action was defined and implemented within 24 hours.

“By closely linking logistics to the marketing and sales department, significant improvements in the fulfillment of customer requirements can be achieved!”

5.3 Woolworth

Woolworth is a retail company with approx. 330 stores in Germany and 12 stores in Austria. In 2005 Woolworth was offering 50,000 active products and employed 14,800 employees who generated turnover of about € 1 billion. All Woolworth stores are supplied by a single distribution center (DC) in Germany. Originally this center was built to store 80% of NOS (never out-of-stock) products and 20% one-time products. But after a change of the company’s strategy, its stock breakdown dramatically changed to 50% NOS products and 50% one-time products. The result was a free capacity of 50% in the high-rack warehouse as well as 25% in the picking areas. The reflection on this situation motivated the Woolworth management to hive off the DC to offer NOS capacity to third parties. The management of the DC was therefore suddenly confronted with several issues such as developing a market entry strategy, offering marketable conditions, services and prices, reducing the share of fixed costs by increasing the utilized capacity, etc.

Woolworth decided to increase the high profile of offerings to third parties by measures including intensive press relations, and to create the ability to compete for business in the third party market by identifying profitable niche markets and potentials for commercialization. The objective was to capitalize on synergy effects from 330 Woolworth stores that are supplied with goods on a daily basis.

In order to meet market expectations, an integrated management system in combination with a continuous improvement process was implemented. The combinations of these two innovations plus the continuous improvement process alone are innovations within the retail industry. The DC received various ISO certificates and applied for international logistics awards, which were seen as external benchmarking and a publicity booster (figure 29).

Within 6 weeks, the 600 employees of the DC generated more than 200 ideas regarding the improvement process. Woolworth is measuring the success of the implemented ideas in terms of money, quality and operational safety.

The implementation of these ideas and of the integrated management system

enabled the DC to offer logistics services at market quality and conditions. Today, the Woolworth DC is prepared for the third-party market and has already won new external customers.

Woolworth identified the following success factors that were key to the achievement of the described changes and improvements:

- Project management capabilities:

The necessity that management lives by the common rules of successful project management (such as binding timelines, assigning responsibilities, tracking of tasks)

- Clear strategy for logistics services:

The management of the DC is now using staff meetings to communicate the success of the company's strategy. Moreover, news updates are published

“The correlation between innovation, quality improvement and company growth was confirmed!”

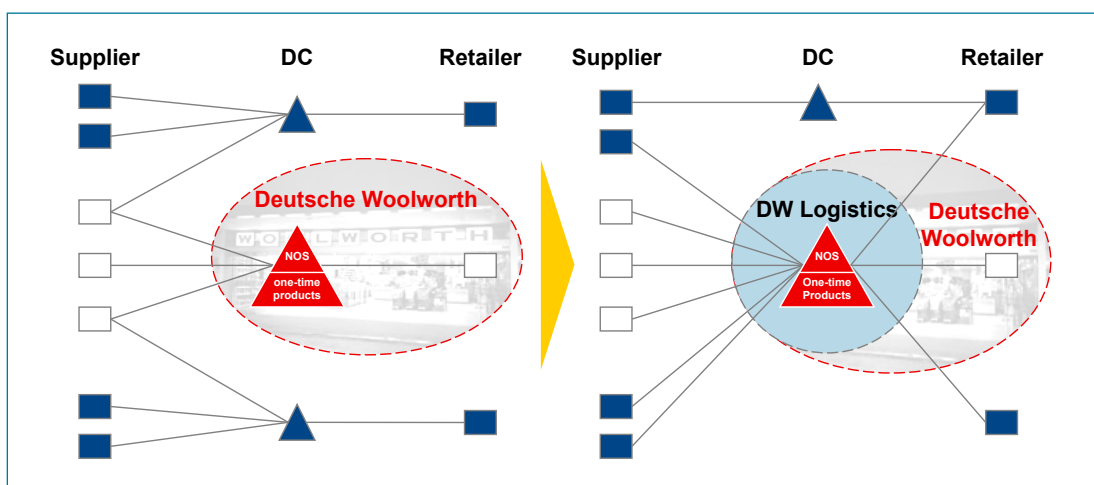


Figure 29: Illustration of the integrated management system (before / after)

5.4 APL Logistics

APL Logistics is recognized as a leading innovator in worldwide logistics and technology management. With more than 300 offices serving over 100 countries, the 5,000 seasoned logistics professionals offer local expertise throughout a truly global network. APL Logistics’ revenues have grown to nearly \$ 1,3 billion (USD).

This case analyzes the logistics solution APL offered to one of its clients. The client is a major Western retailer that has shifted its sourcing from Europe to the Far East over the recent years. Despite this change in sourcing strategy, the logistics concept has remained largely unchanged: the suppliers maintained their own distribution centers (DCs) in their home nation and stock was called off by the retailer. As a result, supply chain costs were far higher than necessary, with over 90 DCs being maintained by the clients’ suppliers. The retailer is now increasing the proportion of directly sourced lines, changing the logistics concept from delivered sourcing to FOB (Incoterm On Board) at country of origin. The retailer recognized that a major challenge was a shortage of logistics and implementation skills internally – hence the easiest way to implement this change was to engage a skilled 3PL (3rd

Party Logistics service provider) firm.

While APL already had a small contract with the retailer, the challenge was to win this major contract against competition from far larger 3PL players. APL wanted to achieve this objective through offering an innovative bundle of services and demonstrating its ability to implement the proposed solution.

The retailer’s specific objectives for this project were to design and implement a logistics system to support direct sourcing for several lines and to be able to replicate this system, with standard processes, on other lines in the future.

For the implementation of the projected new logistics concept “FOB sourcing”, APL logistics was acting for the retailer in organizing logistics from country of origin, covering important aspects like vendor management at origin, shipment consolidation, control of air freight authorization to balance cost vs. benefit, development of “slot management” software to manage truck slot constraints at DC and prioritize key lines, etc.

APL and the retailer agreed upon an “open book” approach to charging for these services in order to increase the efficiency of the overall project (figure 30).

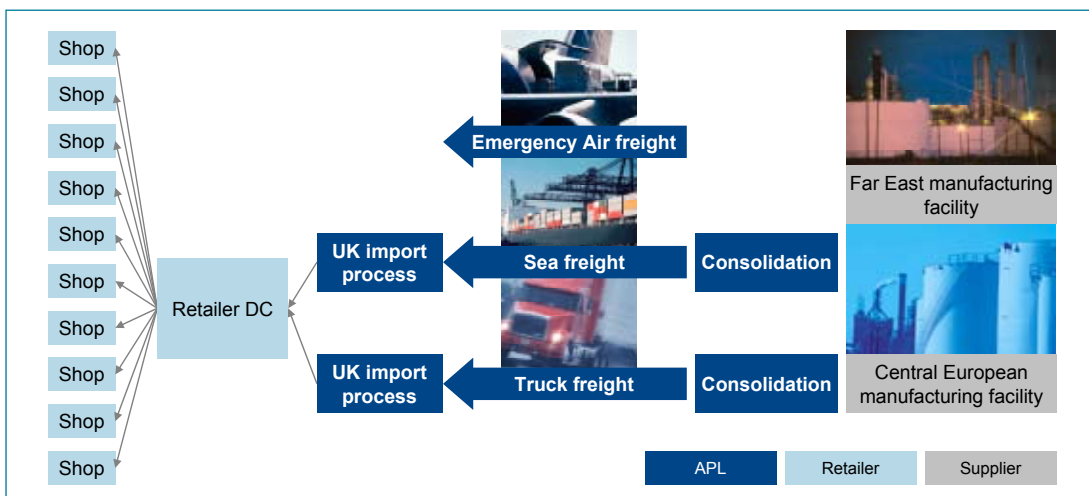


Figure 30: Illustration of the new logistics concept

APL identified the following success factors that were key to the achievement of the described changes and improvements:

- APL's Solution Engineering organization is a catalyst for developing innovative service offerings and is seen as a differentiator by customers; nevertheless implementation skills are critical.
- The use of a joint venture with another logistics firm added critical skills to APL and strengthened APL's position in winning this contract.

“A structured innovation process driven by a dedicated department leads to a significant improvement of market opportunities and increasing revenues”

5.5 Interporto Rivalta

Interporto Rivalta (IR) is the only multifunctional logistics Interporto in Italy to directly manage logistics flows of raw materials (soft commodities). In 2006, the company generated a turnover amounting to € 40 million with 100 employees (+ 450 contractors). Rivalta has two lines of business, a multifunctional terminal and an integrated logistics system (raw materials and final products). Both business lines are focused on logistics outsourcing for manufacturing clients and industrial activities (inbound and outbound). The main activities of Rivalta are in raw materials (cocoa, sugar, coffee) and cocoa butter for the food industry. This case analyzes the logistics solution Rivalta offered to its client Ferrero.

Ferrero, a global chocolate and confectionery producer, needed to improve its manufacturing logistics for chocolate, particularly for cocoa butter input. In the initial logistics concept, the cocoa butter was stored and pretreated near the production lines. The location of the storage and pretreatment limited Ferrero's poten-

tial for expansion of the production lines. The idea was to find a solution to free up spaces and resources for use in the “core business”. The main objectives for Rivalta were to eliminate cocoa butter storage and preparation, to reduce logistics cost for storage and transportation and to generate full customer satisfaction for Ferrero.

Moreover, Rivalta wanted to capitalize the new logistics product and also offer the same service to other producers.

To devise a solution, Rivalta had to deal with the following situation:

the cocoa butter was delivered both from the Port of Genoa and from the Interporto warehouse. The manufacturer was responsible for inbound goods logistics, warehouse management, unpacking and preparation. The production cycle included blending the cocoa butter (25 kilos per batch) with an additional quantity of melted cocoa butter delivered from the port at extra cost. The administration costs of this secondary phase in particular were too high.

Rivalta therefore proposed splitting the process into two phases, to take over part of production and simplify logistics. Working together with the client, Interporto used its plant to develop new technologies with high efficiency and cost-effectiveness. The cocoa butter is now delivered to Rivalta warehouse in containers straight from the harbor. Based on the monthly production program Rivalta receives from Ferrero (now also from other producers), Rivalta plans its own operations, and every day the necessary quantity of cocoa butter for production is treated, transported in tank trucks and delivered straight to production plants.

As a result new services are offered, adding value and enhancing customer satisfaction (figure 31).

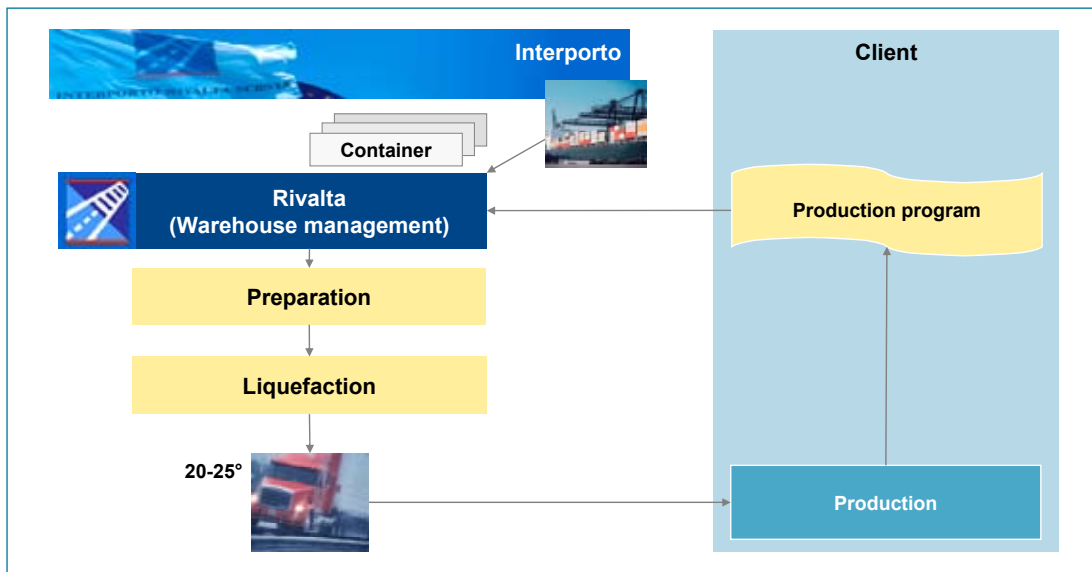


Figure 31: Illustration of the new logistics process

Rivalta identified the following success factors that were key to the achievement of the described changes and improvements:

- Withdrawing from low-value-added phases of client's production can be a useful approach for logistics.
- The innovation proved to be a real test of skills and competences in logistics.

*“An early involvement of **logistics service providers** can lead to a win-win situation if necessary know-how is being transferred”*

6 About the Contributors

European Logistics Association (ELA)



The European Logistics Association is a federation of national logistics associations covering almost every country in Central and Western Europe. By working together through their respective associations, these professional organizations serve the needs of European logistics practitioners. As a formal European body, ELA provides the logistics profession with a European voice at international level.

Through its 30-plus member associations, ELA has regular contact with over 50,000 senior logisticians across Europe.

Arthur D. Little

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We are a global management consultancy specializing in strategy and operations management, serving major corporations and organizations worldwide. We are recognized as leaders in linking strategy, innovation and technology to solve our clients' most complex business issues, delivering sustainable solutions. We are different from others by our deep industry insight and technology expertise. We are proud of our creative people with their intense commitment to our clients.

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If you have further questions please visit our homepage: www.adlittle.com or contact the contributors of this study directly (see below).

Darmstadt University of Technology Chair of Management and Logistics



The Chair of Management and Logistics at Darmstadt University of Technology is dedicated to providing a coupling of theory and practice in the research fields of management sciences and logistics. The committed business disciplines are: logistics, supply chain management, cooperation and networks, leadership, and international management.

The Chair of Management and Logistics is one of the leading institutes for logistical education and research in Germany.

Acknowledgement

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