Roland Berger

2016 logistics study on digital business models

Results

October 2016

Management summary (1/2)

- Digitization is already reshaping other industries and is going to change the logistics business, too
- This study aims at developing and describing specific future digital business models in logistics as well as overall "digital endgames" in order to arrive at recommendations for actions that decision makers in logistics companies can take
- It is based on a detailed analysis of digital trends that have an impact on logistics, an international online survey among professionals in logistics as well as design-thinking workshops with industry experts, start-ups and researchers
- 95% of people in the logistics business think that digitization will partly or completely change the industry
- Data security is seen as the most important threat deriving from digitization. Consequently, the loss of sensitive data is viewed as the most important obstacle to cooperation with business partners. Only about one third of the survey participants believe that their business model could become irrelevant, although other industries have shown significant examples of disruption
- When it comes to the implementation of actions toward digitization, a lack of know-how and lack of stakeholder support are the key challenges. Roland Berger's aim with this study is to enhance the level of know-how surrounding digitization in logistics as well as to make decision makers in logistics companies aware of the challenges and opportunities of digitization
- Numerous digital business models in the logistics industry have already been created by start-ups and even more will evolve in the future. Some will encompass the full logistics chain and others will cover only small elements. Some will create online markets for services, others will help optimize processes or increase transparency
- Roland Berger believes that there will be four types of surviving players in the logistics industry: (1) booking and optimization platforms (BOP), (2) carriers and terminal operators (CTO), (3) supply chain specialists (SCS) and (4) service providers (SP)
- BOP will take over a significant amount of today's standard forwarding business. They will act as intermediaries between customer and CTO and will have to be independent in order to be accepted by business partners. SCS are expected to manage and handle complex logistics task that require specific industry knowledge or that cannot be standardized. SP are going to provide data, transactional, clearing, software and other services, which are enablers of digital business models

Management summary (2/2)

> Given that the standardized forwarding business is potentially at risk for today's logistics companies, they may lose up to 70-80% of their revenue. A typical forwarder's P&L shows about 20% gross margin, which is needed to cover operating expenses, SG&A and profit. From a shipper's perspective it is attractive to directly approach carriers via a BOP and to save a significant share of the forwarder's gross margin

> As creating an individual BOP will not be an option for logistics companies, they will have to decide whether to become asset oriented and turn into a CTO or to become service oriented and turn into an SCS and/or an SP

> Regardless of which individual strategy a logistics company may choose, a few important topics should be taken into consideration:

- The strategic dialog should be started by quantifying the potential revenue and profit gap
- A decision on the future key strategy, i.e. asset or service based, should be made and a strategic roadmap should be developed accordingly
- Companies should define their position toward a booking & optimization platform. They should consider getting in touch with potential cooperation partners in order to create one
- Digitization is inevitably going to come. Therefore, digital transformation is a key task that needs to be performed by introducing employees to digital thinking and by implementing new ways of IT project management
- However, no one knows exactly what is going to happen. Hence, the continuous exploration of the potential of new technologies, e.g. by setting up a corporate incubator, is another important task
- Finally, in order to be prepared for dramatic changes ahead, a corporate performance program should be set up and accompanied by a solid financial plan. It is advisable to involve financing partners early in the process

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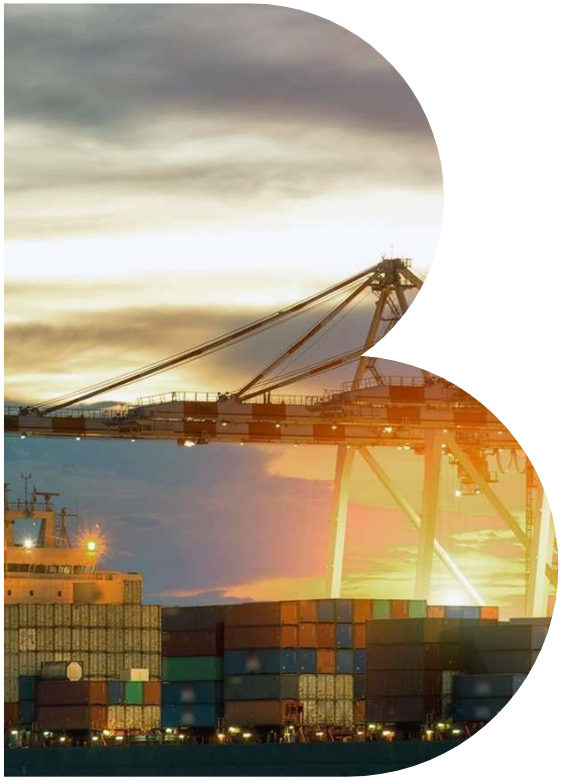
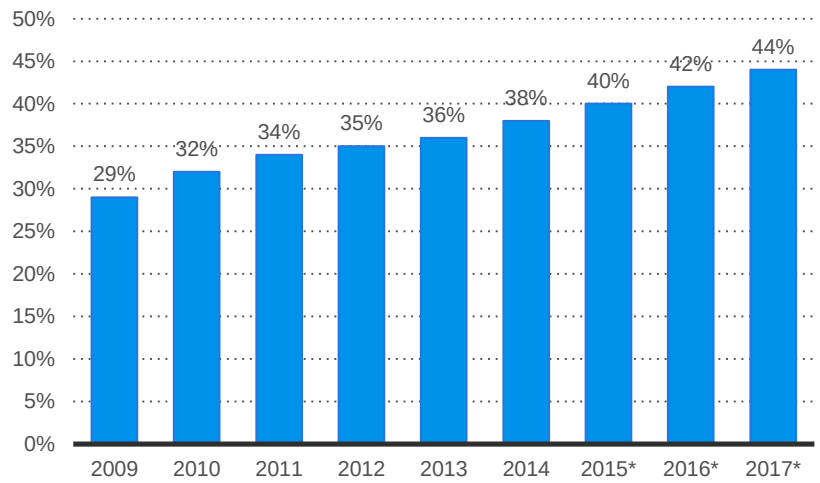
A. Motivation



Increasing numbers of people book their vacations online – Despite a growing market, travel agencies are being forced to close down

Online penetration of German tourism market



- Websites like Expedia.com are becoming more popular
- Expedia Inc.'s revenues have increased by more than 100% over a seven-year period – USD 5,763 m in 2014
- Convenient processes as well as cost savings draw travelers to online booking
- Only all-inclusive tours are still mainly booked offline

- Germans spend 13 bn more on vacations than they did in 2006
- However, the number of travel agencies has declined by one third over ten years. There are now more than 4,000 travel agencies less than in 2002
- Hotels are under pressure from sharing platforms like airbnb.com
- Online presence of hotels is often decisive for bookings

Source: Phocuswright, Statista, Roland Berger

As the container celebrates its 50th birthday, a new revolution is imminent in the logistics sector

> Angel.co lists 1,112 logistics start-ups

> Number of entries for keywords "logistics start-ups, freight and cargo" in top blogs for technology increased from 3 in first half of 2010 to 134 in first half of 2015

> Survey by Roland Berger shows: logistics sector expects massive change

Source: Freightos, Roland Berger

Using a multi-layer study design, we want to draw a realistic picture for new business models in logistics

Approach and status quo

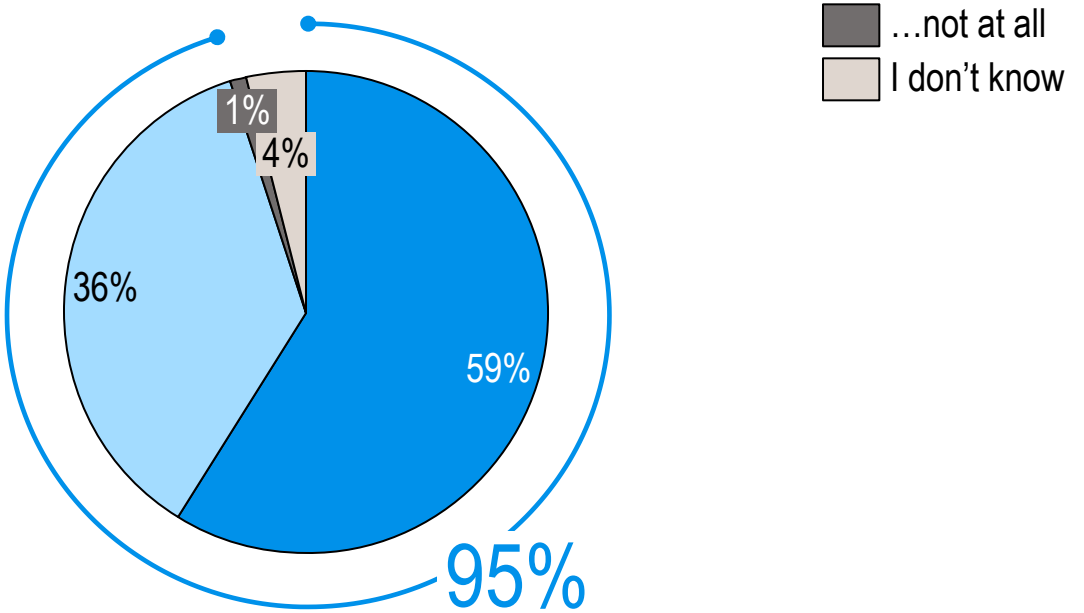
Phase	Basic setup	Survey	Digital business models	Digital endgames	Release
Status	✓	✓	✓	✓	✓
Goal	> Compilation of digital trends relevant to logistics industry > Discussion of trends with industry experts, start-ups and researchers	> Identification of opinions of logistics service providers on digitization > Analysis of status quo regarding implementation of digital business models in logistics sector > Outlook on expec-ted development	> Formulation of concrete "digital" business models in workshops with industry experts, start-ups and researchers	> Detailing and validation of business models > Identification of most relevant business models > Deduction of possible "digital endgames"	> Presentation of results in fall 2016 > Trigger for further discussion and implementation of digital business models

C. Online survey – Status quo and outlook on digitization in logistics

Almost 95% of the participants share the opinion that digitization will partly or completely change their industry

Statement 1: Changes in the logistics industry caused by digitization

Digitization will change the industry...



> According to the vast majority of respondents, digitization will change the logistics industry completely (59%) or at least partly (36%) in the coming years

> Changes are possible in many areas and will especially affect market transparency and collaboration between different (new) market participants

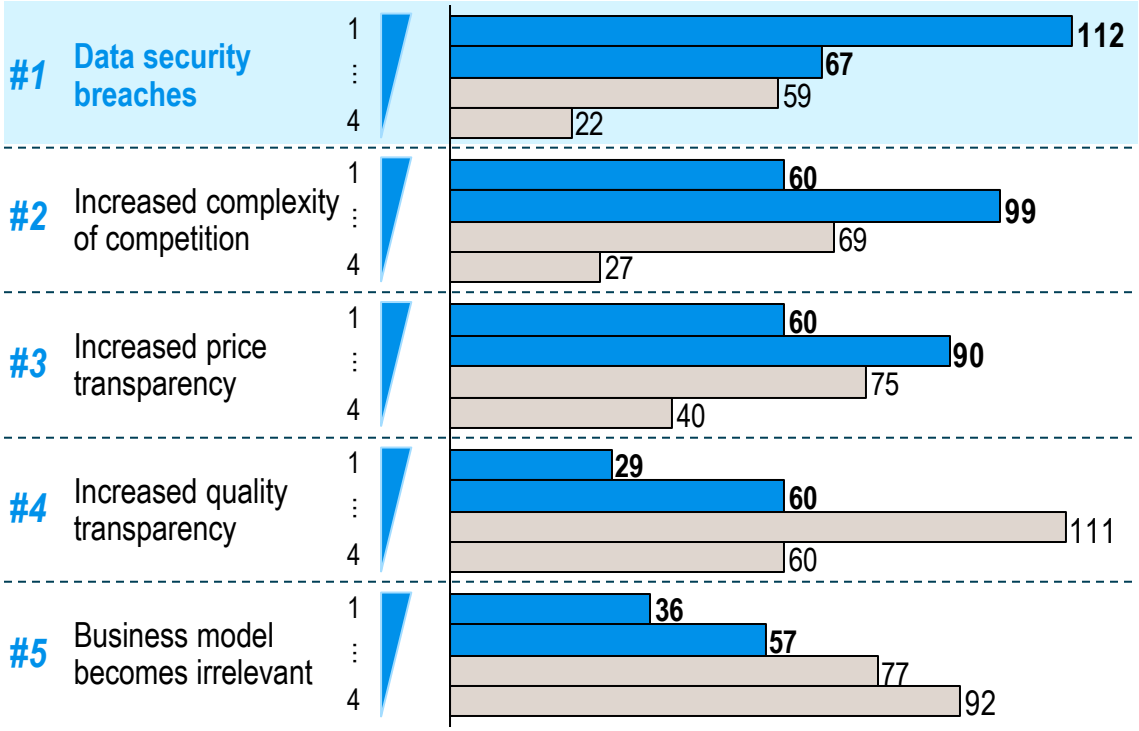
Source: Roland Berger online survey "2016 logistics study on digital business models"

Data security is seen as a big risk – Replacement of current business models possible and already advanced in other industries

Statement 3: Risks of digitization

How could digitization threaten your business model?

Every option was assessed individually



1 – Big risk | 4 – No risk

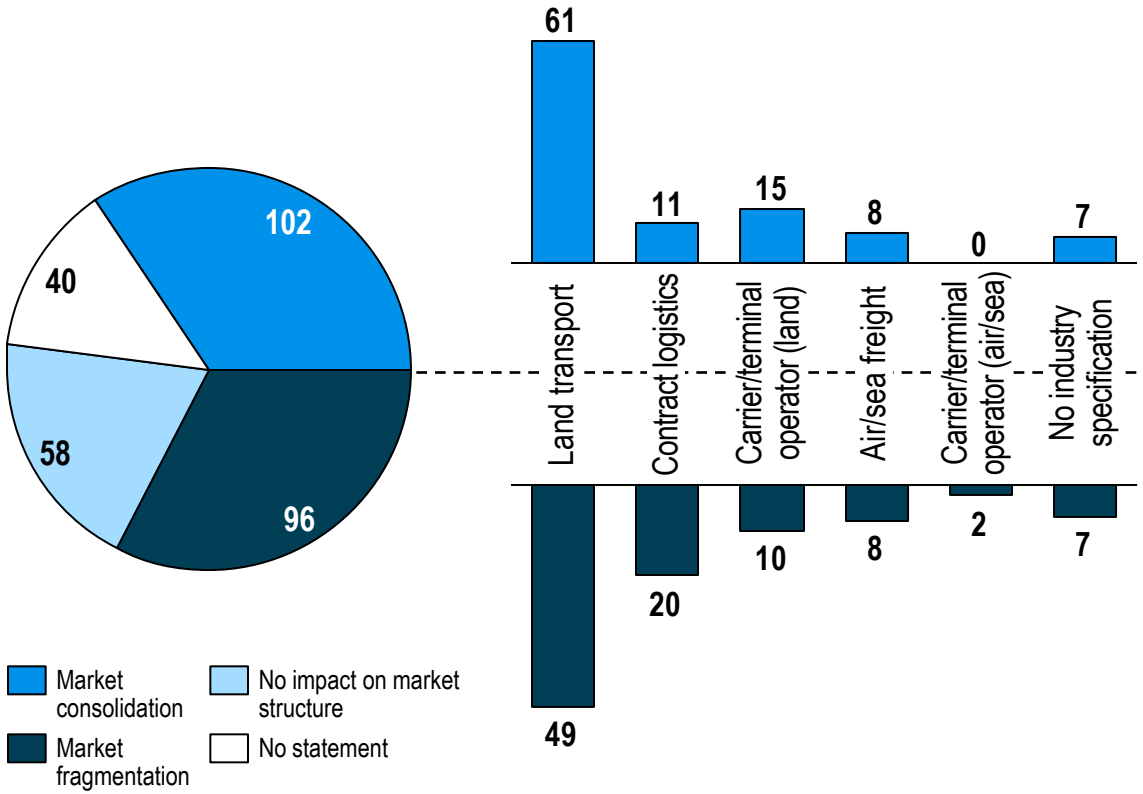
- Data security is seen as a risk across all industries and company sizes
- Fully one third of participants believe current business models could become irrelevant
- Especially participants with a contract logistics background (~45%) and those from larger companies see this as a risk
- Numerous examples confirm disruption in other industries:
  - AirBnB vs. hotels
  - Uber vs. taxi companies
  - Expedia vs. travel agencies
  - Amazon vs. retail companies
  - Netflix vs. video rental stores

Source: Roland Berger online survey "2016 logistics study on digital business models"

There is disagreement about the impact of digitization on the market structure, even within sub-sectors

Statement 4: Impact of digitization on market structure

Digitization leads to...



> Other industries indicate that, alongside leading digital players, a large number of niche providers can establish themselves

> After high market fragmentation, consolidation typically follows digitization in industries

> Digitization can become a problem, especially for medium-sized enterprises, which have neither the necessary size nor a sufficient specialization – They are "stuck in the middle"

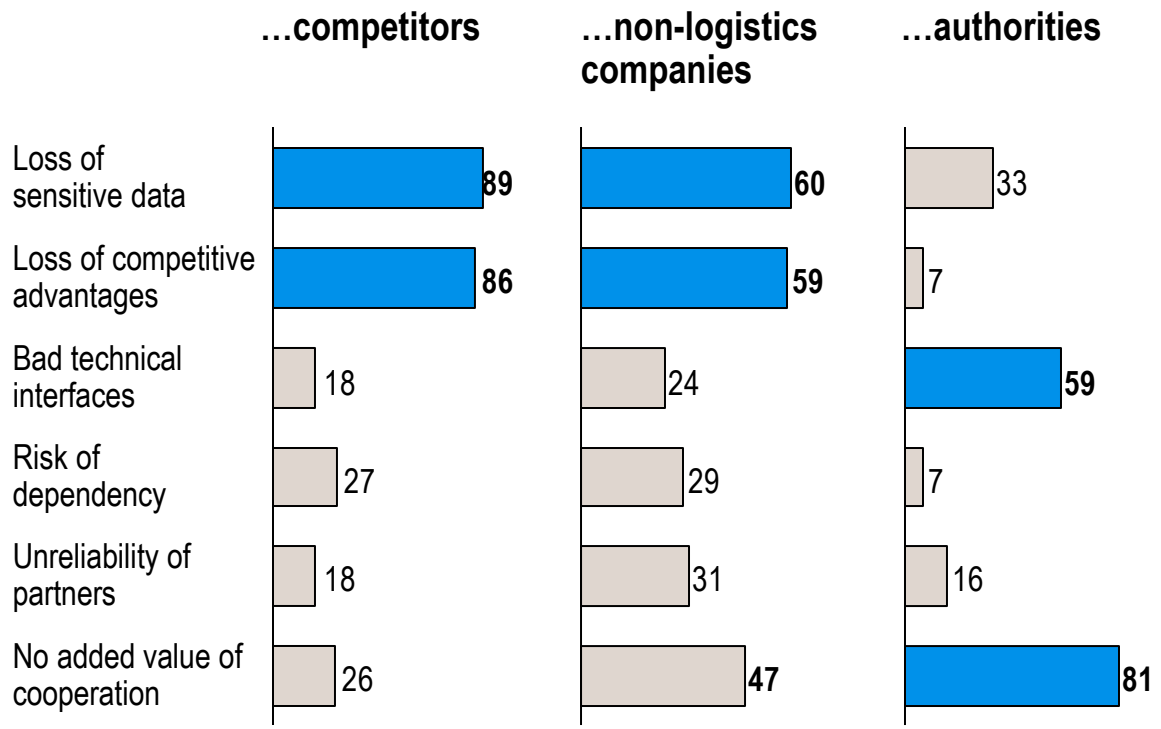
Source: Roland Berger online survey "2016 logistics study on digital business models"

Loss of sensitive data or competitive advantages are key obstacles to cooperation with competitors and external parties

Statement 8: Risks of cooperation

What obstacles do you see when cooperating with ...

Every option was assessed individually



> The loss of sensitive data is most notably a danger from the point of view of contract logistics, especially when considering potential cooperation with competitors

> Particularly carriers rate the loss of competitive advantages in cooperation with competitors as a major risk – For them, data security is not a key issue

> The interviewees do not expect substantial benefits from cooperation with authorities. Air/sea carriers with a high share of international traffic see the greatest potential. For this group, however, the lack of technical interfaces is the biggest obstacle

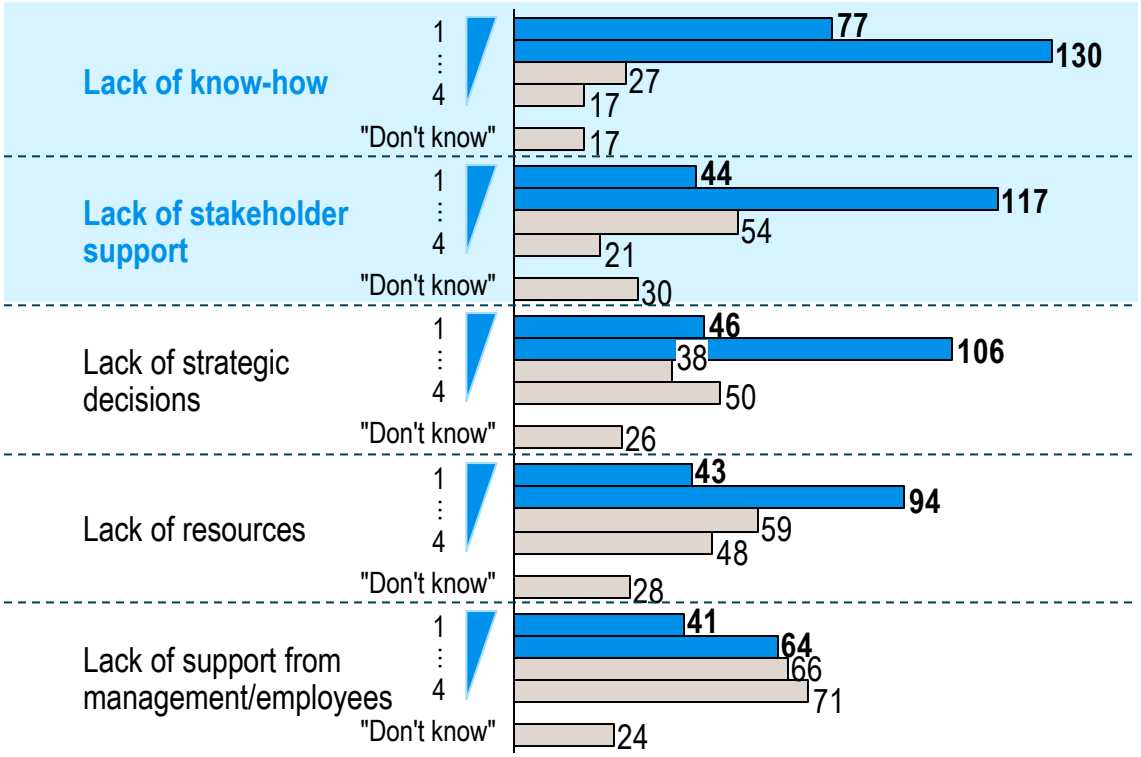
Source: Roland Berger online survey "2016 logistics study on digital business models"

Lack of know-how and stakeholder support are key challenges with regard to the implementation of digital measures

Statement 14: Challenges regarding implementation

What challenges do you face when …

… implementing digitization measures?



1 – Very big challenge | 4 – No challenge

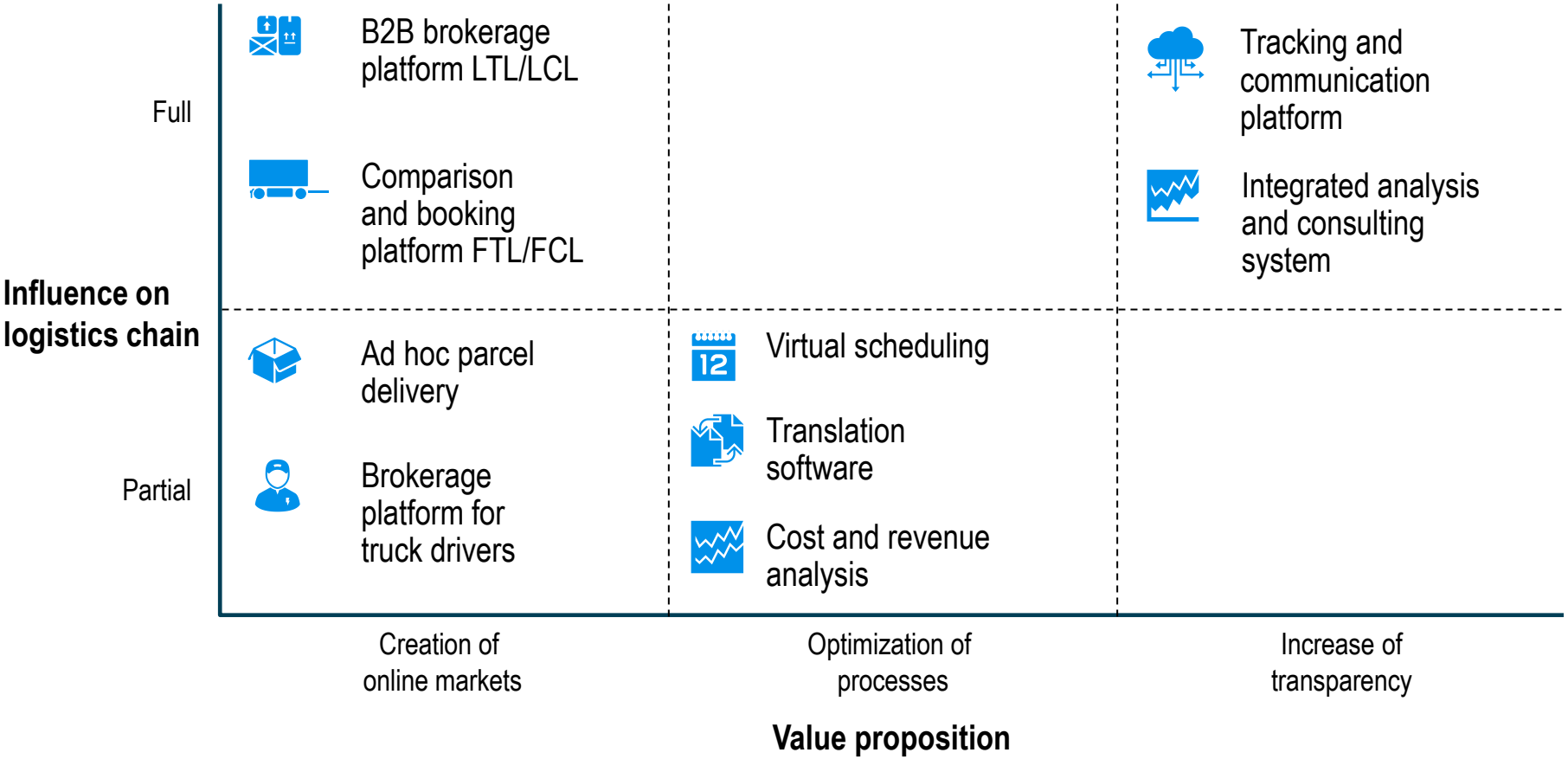
> Small companies have to cope especially with a lack of resources, whereas bigger firms consider a lack of know-how and lack of support from management and employees to be a major factor impacting implementation

Source: Roland Berger online survey "2016 logistics study on digital business models"

D. Digital business models

Business models can be classified based on their influence on the logistics chain and their value proposition

Business model categorization



Source: Expert workshops, Roland Berger

E. Digital endgames – What the future could look like in logistics

Future players in logistics can be broken down into four groups – Service providers are also active in other industries

Surviving players in the logistics industry (endgame scenarios)

1 Booking & optimization platforms (BOP)

> Independent platform for the management of logistics transactions

> Route and cost optimization capabilities

2 Carrier & terminal operators (CTO)

> Asset holders and operators performing logistics tasks

> High asset and cost efficiency

> Either specialized or standardized

3 Supply chain specialists (SCS)

> Solution provider for complex or industry-specific tasks

> Deep understanding of industry-specific supply chains

4 Service providers (SP)

> New players, hardware providers and existing online players

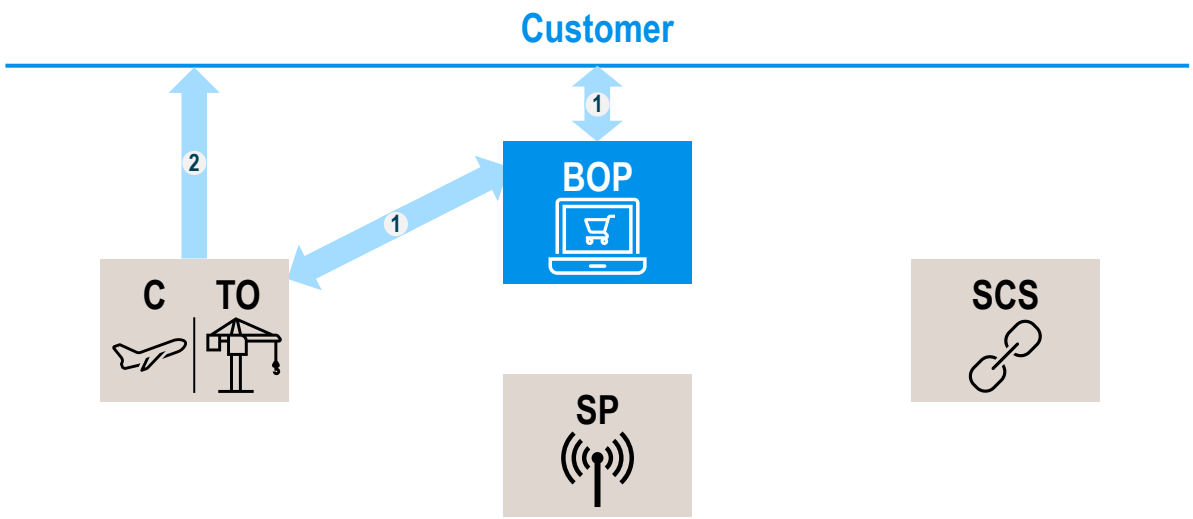
> Provision of support services for logistics companies

Active in multiple industries

Source: Market experts, Roland Berger

Booking platforms will primarily be attractive for standardized and small to medium-sized orders – Many BOP will compete for clients

Booking & optimization platforms (BOP)



Interaction model

1 Booking, payment, rating 2 Logistics services

> BOP are ideal for clients with standard orders
> Customers settle their request, booking and payment via BOP; BOP receives a booking fee and interacts with CTO
> After the delivery, BOP asks customers for carrier ratings to allow future clients to compare different CTO

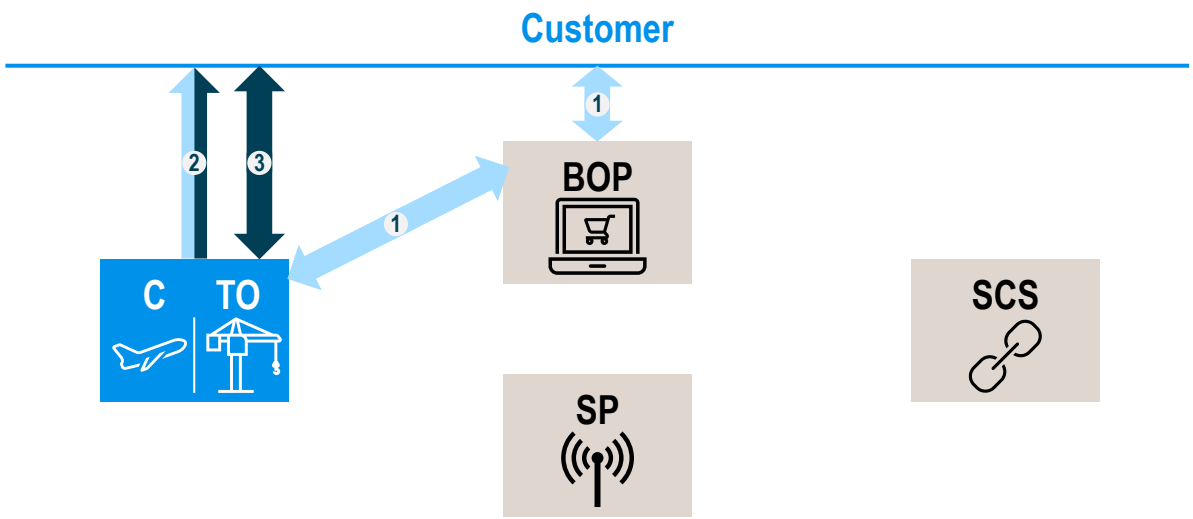
> With technology moving on and clients constantly looking for the cheapest price, BOP's cost efficiency will soon make them omnipresent in the market for standard orders
> 'The winner takes it all' – The BOP with the broadest offering will attract the most customers while pushing most forwarders and other platforms out of the market
> Still, BOP need to differentiate themselves or will most likely be exposed to a price war

CTO: Carrier & terminal operators; BOP: Booking & optimization platforms; SP: Service providers; SCS: Supply chain specialists

Source: Market experts, Roland Berger

CTO must react to BOP by selling recurring business and large corporate packages – Customers will benefit from better prices

Carriers & terminal operators (CTO)



Interaction models

1 Booking, payment, rating 2 Logistics services

3 Booking, payment

> CTO will either receive orders from BOP ( ) or directly ( )

> CTO will get most standard orders from BOP, but firms with recurring business and very large companies with standard logistics needs may choose to buy discounted service packages from CTO directly

> BOP booking fees can cut deeply into the bottom line – CTO companies should consider forming alliances to build their own BOP

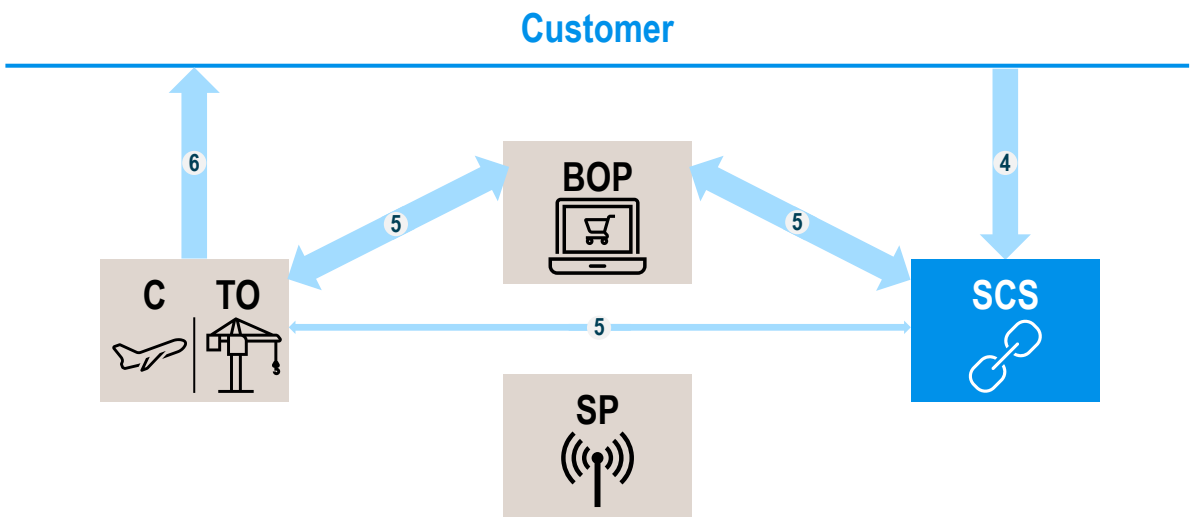
> Optimizing their business through service providers will be key for CTO in an increasingly digitized industry – Acquisitions may be necessary

CTO: Carrier & terminal operators; BOP: Booking & optimization platforms; SP: Service providers; SCS: Supply chain specialists

Source: Market experts, Roland Berger

SCS handle complex logistics tasks that require industry-specific supply chain expertise – Contract model is one option

Supply chain specialists (SCS) – Contractor model



Interaction model

- 4 Booking, payment
- 5 Outsourcing, mostly via BOP
- 6 Logistics services

> SCS offer a full solution service with outsourced logistics services that are part of a complex supply chain

> Management of supply chains will become even more digitized and require SCS to partner with service providers or even acquire them

> Finding the right size will be a tough challenge for SCS as cost structures have to be slim while innovation must be kept at a high level

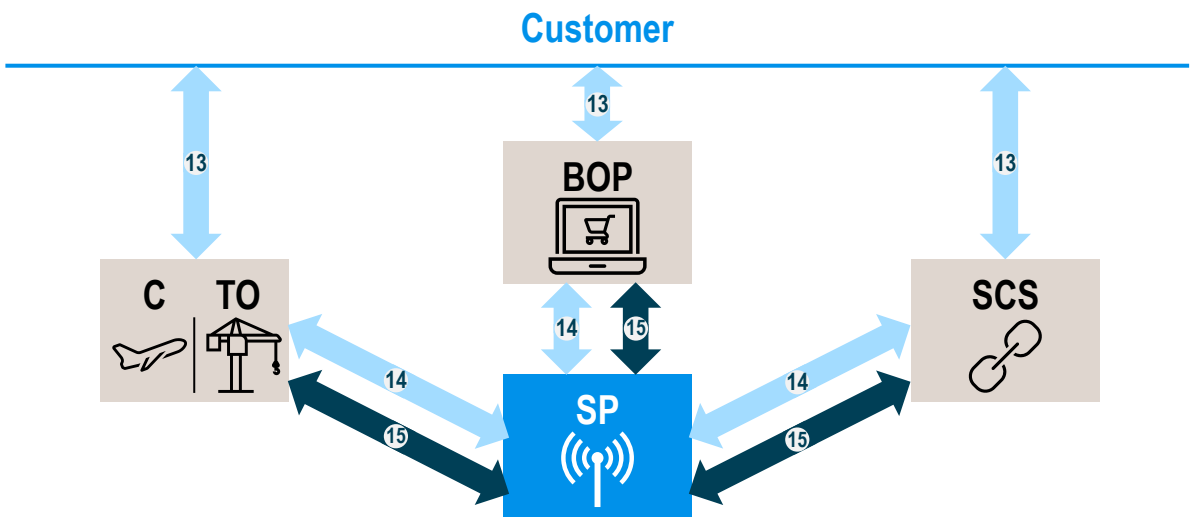
> SCS could also work in an agency model, only charging for their direct services

CTO: Carrier & terminal operators; BOP: Booking & optimization platforms; SP: Service providers; SCS: Supply chain specialists

Source: Market experts, Roland Berger

Service providers are involved in all client interactions and service provisions – They enable the change in the logistics industry

Service providers (SP)



Interaction models

- 13 Client service provision
- 14 Pay-per-use service
- 15 Subscription-based service

> Depending on a service provider's offerings, it can serve CTO, SCS and/or BOP – Whether the product is available through a subscription scheme, pay-per-use or a combination of both is highly dependent on its ease of duplication

> Service providers support CTO, BOP and SCS in performing and optimizing their services

> Examples of SP clusters:

- Data (GPS tracking, routing, price information)
- Transactions (payment, collection)
- Clearing (customs clearance, documents handling)
- Software (data interfaces, translation, optimization)

> SP are essential drivers toward the future industry setup with only four major players, but their final role is yet to be defined

CTO: Carrier & terminal operators; BOP: Booking & optimization platforms; SP: Service providers; SCS: Supply chain specialists

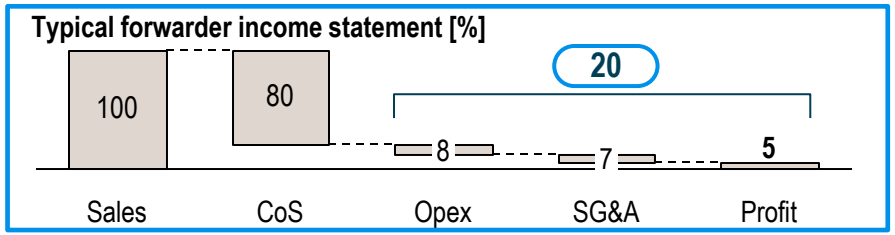
Source: Market experts, Roland Berger

Standardized forwarding business will come under pressure – By contrast, the contract logistics market is expected to grow

Market outlook

	Forwarding air/sea	Forwarding land	Contract logistics
Current share of standardized business (FTL, LTL, container)	~80%	~70%	<5%
Projected market development	↓	↓	↗

> Booking platforms are expected to attract most of forwarders' standardized business, aiming at grabbing their margin
> As a result, forwarders' business models need to be transformed



> Demand for personalized products is expected to grow
> Supply chain specialists are expected to offer product personalization
> As a result, contract logistics market is expected to grow ~9% p.a.
> Digitization might boost growth as demand for tailored solutions increases

Source: Market experts, Roland Berger

Current logistics companies will have to decide in which direction to develop their business – Becoming a BOP is not an option

Hypotheses on future roles in the logistics industry (endgame scenarios)

C TO

> Current players
> Former logistics companies with a mixed business model
> Some new players, e.g. in urban logistics

BOP

> New neutral players
> Cooperation of customers
> Cooperation of forwarders

SP

> New players
> Cooperation of hardware providers
> Existing online players

SCS

> Former global forwarders/ integrators
> Specialized logistics companies

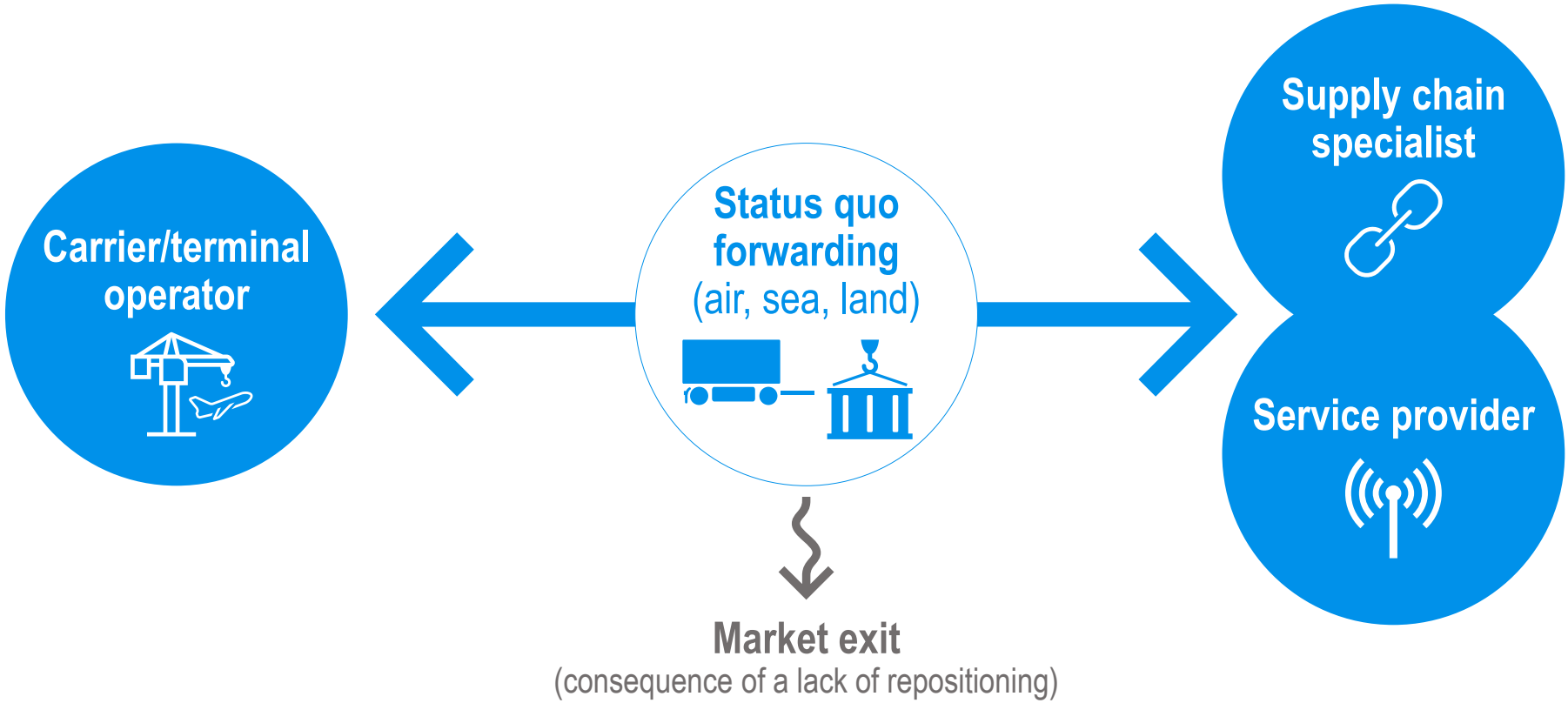
> Cooperation in a flexible structure will become a more common business pattern
> Booking platforms being used by various parties will have to be neutral – It is not an option for single companies to set up booking and optimization platforms (BOP)

CTO: Carrier & terminal operators; BOP: Booking & optimization platforms; SP: Service providers; SCS: Supply chain specialists

Source: Market experts, Roland Berger

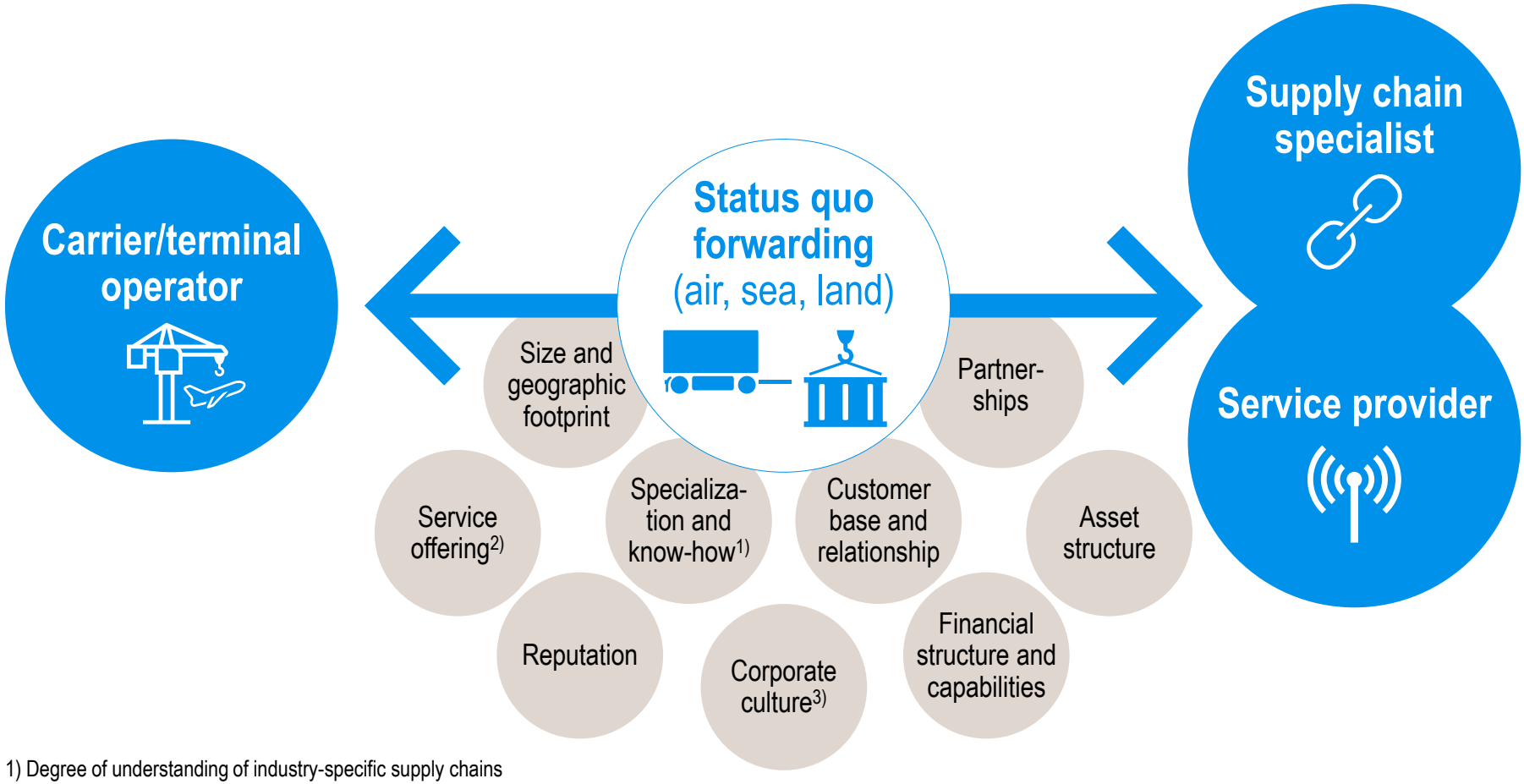
Forwarders can move into two directions: Focus on asset ownership and operation or focus on services

Strategic options for forwarders



Strategic direction is influenced if not predetermined by current business model and market position

Strategic options for forwarders – Influencing factors



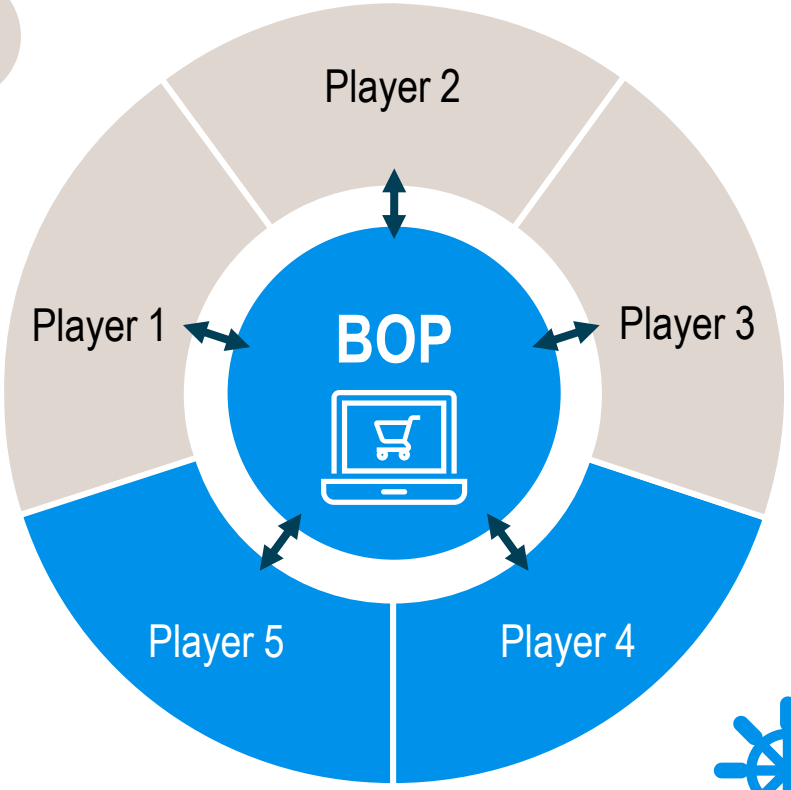
1) Degree of understanding of industry-specific supply chains
2) Especially in relation to competitors 3) Degree of agility, acceptance of change

BOP are expected to be a focal point in logistics – Regardless of strategic position, market players need to connect to or control them

Relations between BOP and other logistics players (exemplary)

Solely information exchange with BOP

- ✚ Keeping focus on core competencies
- ✚ Ability to choose the best BOP for oneself
- ✚ Investments only needed for setup of interfaces with BOP
- ▬ Loss of customer interface and hence information on what clients are seeking
- ▬ Low bargaining power compared to BOP
- ▬ Low influence on BOP cargo data standards



- ✚ Strong market power
- ✚ Access to future profit pools
- ✚ Keeping control of customer interface
- ✚ Influence on cargo data standards
- ▬ High investment costs
- ▬ Reorganization requirements
- ▬ Conflicts resulting from alliances with other players
- ▬ Potential loss of focus on core business

Setup of booking and optimization platform

BOP = Booking and optimization platform

In order to be prepared for the interaction with a BOP, forwarders need to undergo a digital transformation

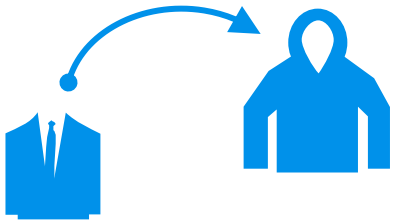
Elements of a digital transformation

Typical challenges

- Outdated legacy systems
- Limited operational efficiency
- Lack of integration
- Proprietary standards
- Complex structures
- Aging personnel

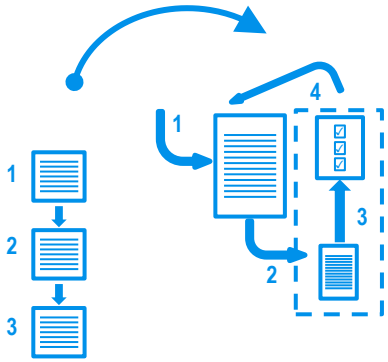
Required transformation

People



> Holistic cultural change
> Inclusion of the entire workforce
> Sustainable anchoring of digital culture substituting old methods, skills and decision processes

Projects



> Top-down definition of requirements
> Extensive use of standard software
> Agile development methods, e.g. scrum

Logistics companies need to streamline their cost base and secure necessary financing in order to survive the transition

Operational and financial transformation

Cost base
> Achieve benchmark operational efficiency and cost base

Financing
> Achieve efficient long-term financing

Financing
> Transformation will require significant cash funds for people development and IT systems

Cost base
> Banks will be reluctant to finance. Hence operational cash flow will be main source of funding

Preparing a logistics company for the digital age is a holistic transformation program – An early start is essential

Key takeaways

- Start the strategic dialog by quantifying the potential revenue and profit gap
- Decide on your key strategy, i.e. asset or service based, and develop a strategic roadmap
- Define your position toward a booking & optimization platform. Consider getting in touch with potential cooperation partners in order to create one
- Push digital transformation by introducing employees to digital thinking and by implementing new ways of IT project management
- Establish the continuous exploration of the potential of new technologies for your business, e.g. by setting up a corporate incubator
- Kick off a corporate performance program and develop a financial plan. Involve your financing partners early in the process

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