### MWCH01\_E

## 1.1

1. What reasons motivate a company to implement Supply Chain Management?

*Increasingly globalized and liberalized markets are experiencing a rapid rise in competitive pressure. Harmonization and deregulation activities are being implemented across the EU and globally.*

*A simultaneous increase in customer power is also experienced, as the opening of new markets offers greater choice and more purchasing alternatives. Product life cycles are shrinking due to rapid technological sequencing and increased market saturation. New forms of information technology are contributing to the creation of virtual marketplaces, which require faster logistical processes. Customer requirements are increasing at the same time, which can again be attributed to customers being better informed and organized through new media.*

*The development of global strategies is essential in enabling producers and service providers to meet increasing consumer requirements, which is precisely where Supply Chain Management comes in to play as a holistic strategy.*

1. What is the definition of Supply Chain Management?

*Supply Chain Management represents the linking of value-creation chains, in which the participants in the value-creation chain are closely networked through the creation of intelligent logistics processes and a basic structure exists, which not only encompasses the actual transport routes, but also covers supply and disposal strategies, and provides a uniform controlling system for all participants in the process chain.*

*Supply Chain Management means that integrated logistical chains (the flow of money, information, and material) are developed, managed, controlled, and monitored across the entire value-creation process. This extends from the extraction of raw material and production activities to the various refinement stages and delivery to the end consumer.*

*For this reason, Supply Chain Management is also referred to as the theory of value chains or value chain management.*

## 1.2

1. Explain the difference between Supply Chain Management and Logistics Management.

*Logistics Management differs from Supply Chain Management in that it deals with the tasks performed by a logistics coordinator (shipping manager, manager of a business unit in the areas of procurement or distribution, logistics manager, or other comparable role) as well as logistical situations. Supply Chain Management, however, additionally incorporates a holistic view of the company – an element that is crucial and far exceeds logistical tasks by including all interfaces that exist with logistics.*

1. Please complete the following sentence:

The task of logistics is to provide the *right goods,* in the right *amount*, in the right *condition*, at the *right place,* at the *right time,* for the right *customer,* and at the right *cost*.

## 1.3

1. Explain the difference between 4PLs and 5PLs.

*The 4PL coordinates the capacities of the individual partners involved in Supply Chain Management, decides on the use of external service providers, and issues them with corresponding orders. The 4PL uses transport, warehousing, and information technology as needed by members of the supply chain and is additionally responsible for Cost-Benefit Sharing among those.*

*The approach taken by 5PLs is to expand and coordinate individual supply chains in order to develop them into supply networks. 5PLs often emerge from e-commerce business and offer their customers a strategic logistics approach, in which they also take on the conceptual development of the network.*

*To assist them in this conceptual development, these service providers draw on the latest technologies in the field of simulation and forecasting tools, which not only serve to determine the flow of goods but also the utilization of existing capacities. All relevant points in the value-creation chain can be recorded, from the simulation of costs and vehicle schedules through to slot allocations (time of arrival and/or delivery) and quality measurements.*

1. What is a system integrator?

*If no external service providers are used as part of a value-creation chain that is configured according to the specifications of services provided by a 4PL, their tasks are undertaken by a dominant partner in the supply chain (manufacturer or retailer, for example). In such cases, the service provider is referred to as a system integrator.*

## 1.4

1. Why is Supply Chain Management becoming increasingly important?

*Supply Chain Management has played an increasingly important role since the 1990s. Medium-sized companies are also convinced of the necessity and benefits of cross-company optimization along the entire value-creation chain as a means of remaining competitive and continuing to achieve commercial success in the future by better satisfying customer requirements.*

## 2.1

1. What are the goals of Supply Chain Management?

*The aim of efficient supply chains is primarily to reduce waste and utilize production in a cost- and capacity-oriented manner so that there is a high and uniform level of production.*

1. What is the difference between an intracompany and a company-integrated supply chain?

*In an intracompany supply chain, an upstream step or production area always supplies a downstream area. In an internal or inner supply chain, this point of reference is determined by the vertical manufacturing range of the manufacturing company. The more pronounced the vertical range of manufacture within the company, the longer the internal supply chain.*

*By contrast, the company-integrated supply chain is a network-oriented supply chain. All organizations participating in the supply chain are closely interlinked. If we assume that a production company is at the heart of the supply chain, then this will not only involve all suppliers, but their suppliers and customers, and then their customers in turn. All activities relating to the product are incorporated into the integrated supply chain.*

## 2.2

1. Which tools are you familiar with in the context of supply chain strategies?

*In the area of warehouse management, stock cover monitoring, decomposition, consignment analysis, analysis of stock transfer frequency, running time analysis, and setup time analysis can be used in the context of inventory reduction.*

*In freight cost reduction, machine-based freight costing or milk run approaches can be applied, with the addition of benchmarking or reverse engineering.*

*Quality assurance uses tools and measures to translate customer requirements into development goals such as effects analysis, quality function deployment, and bottleneck engineering.*

1. Why is inventory reduction desirable in warehouse management?

*By reducing inventory, high capital commitments are released and a direct reduction in costs is achieved.*

1. What are the consequences of inventory reduction?

*If the extent of inventory reduction is not thoroughly considered and coordinated, “out-of-stock situations” can occur, which can lead to a loss of image or even production stoppages. For this reason, an optimal stock quantity must be identified to prevent the reduction in storage costs leading to an increase in shortage costs.*

1. Explain the term “milk run” and describe an example from practice.

*“Milk run” refers to the route-optimized transport of goods based on a specific route system. Collection, transit, and delivery times are meticulously defined in advance on the same basis as a schedule. The goods are either transported from one supplier to several recipients, or goods from various senders are consolidated for one recipient and delivered together. In addition to pure transport, packaging materials, loading equipment, and similar, are taken over and disposed of as necessary as further services. As a result of the optimized planning, the transport units are utilized to their full extent and the client receives the best possible freight cost rate.*

*In practice, milk runs are often used in procurement for retail chains or in supplier-intensive production branches in the automotive industry. One example is the use of so-called “regional forwarding agents” for automotive manufacturers. A logistics service provider is selected for a specifical geographical area, who organizes the collection of supplied parts from all of the manufacturer’s suppliers. The suppliers are approached at regular intervals in a precisely defined geographical sequence based on a previously defined timetable with fixed collection time windows known as “slots”. “At regular intervals” means daily, weekly, or monthly, depending on the individual supplier’s delivery frequency and volume. The goods received from the suppliers are collected by the logistics service provider and also delivered to the automotive manufacturer within a specific slot. If the slot cannot be kept for any reason, the delivery can only take place once a new slot has been allocated, as internal logistics at the plant are matched entirely to the slot delivery.*

*Packaging material is delivered or accepted by both the supplier and the manufacturer as required.*

1. Why are logistics services often outsourced?

*Logistics services are often outsourced to 3PLs or 4PLs by operators of supply chains, as they have the tools and experience to calculate delivery frequencies, including freight costs, for each specific consignment using appropriate simulations. Seasonal peaks and many other elements are also taken into account. An efficient reduction in freight costs can be achieved by handing over the coordination of storage and transport to a transport network operator, as extensive synergies are realized through a combination of transport methods and a uniform tariff network.*

## 2.5

1. Explain the terms VMI and Cross-Docking.

*Both VMI, or Vendor Managed Inventory, and Cross-Docking are Efficient Replenishment methods. With VMI, the responsibility for scheduling and thus for stock is transferred from the recipient (producer or retail company) to the supplier. The ongoing supply of goods is thus ensured in a coordinated process based on current demand – be it by the consumer (in retail) or by processing (in production). IT networking plays a key role in all VMI models.*

*With Cross-Docking, raw materials, packing materials, or other goods are delivered to a specific transfer point (this can take the form of a picking warehouse, logistics center, or similar), where they are pre-picked. Any storage of the transported goods is rendered superfluous as deliveries to the recipient are precisely coordinated. As a result, a reduction in inventory costs and associated activities, and a reduction in operational transport costs is achieved with Cross-Docking, as the consolidation of goods flows to one recipient leads to considerable synergy effects. Furthermore, the flow of goods is accelerated, as the turnaround time for goods in the warehouse is vastly reduced due to a rapid turnover.*

1. Explain the difference between Efficient and Continuous Replenishment.

*Efficient Replenishment focuses on achieving an optimal balance between warehousing and operational costs and maintaining a high level of service. It involves producing and distributing goods in step with demand on the basis of current stock data using the “just-in-time” principle. As the customer instigates delivery of the goods supply according to demand, a pull system is at work here. Continuous Replenishment Processes (CRP) are not retail-driven, but partnership-based processes. Based on sales and inventory information transmitted promptly by retailers via EDI (Electronic Data Interchange), and the use of joint forecasting, the manufacturer replenishes stocks accordingly for retail: Deliveries are made automatically based on certain parameters, resulting in an accelerated process chain and greater flexibility.*

## 3.1

1. What causes resistance when implementing supply chains?

*Employees may reject changes that arise during the implementation of the supply chain or refuse to participate in change processes. This reaction can occur if the objectives associated with the creation of the supply chain are not clearly defined, or if the company’s present organizational structure does not lend itself to achieving the objectives and has to be completely changed. Furthermore, there may be a lack of willingness on the part of suppliers or customers to participate in networking and intensive exchanges of information.*

*The development of new interfaces through mutual networking (e.g. between multiple suppliers) can also lead to problems, particularly where data protection issues and sensitive company data are concerned, as there may be an element of mistrust.*

## 3.2

1. Explain the interface issue in the context of supply chains.

*Interfaces present a considerable source of error within the supply chain, which must be reduced by means of efficient quality management in order to minimize the supply chain’s susceptibility to disruption.*

*Interfaces are the points in a process chain at which an object to be processed is passed from one participant to the next, or at which the next processing stage must take place. Interfaces are critical as they can halt the entire process chain or cause additional effort if there is a lack of communication or a disrupted flow of information. Interface problems arise due to a lack of coordination, in other words where individual areas are pursuing dedicated goals or where there is competition between different company areas. Such cases can give rise to partial optimizations, whereby the areas affected by the problems create isolated solutions that may indeed appear optimal for the individual area but cause damage across the entire value-creation chain. For this reason, it is advisable to set up the organization in a process-oriented manner in Supply Chain Management, thereby creating the smallest possible number of interfaces, which are closely intertwined through timely information and coordination.*

1. Find two practical examples of postponement.

*“Postponement” means that management decisions are deferred until the latest possible decision-making time is almost reached so that the largest possible amount of information relating to the decision is available. The area of labelling can be given as an example here, i.e. identical products are sold under different brand names (in retail, home brands often come from the same manufacturers as branded products). Production takes place independently of orders and the products are not labeled until just before the products are delivered to the customer.*

*An example of logistical or geographical postponement is where textiles are produced in low-wage countries and held there for delivery until a complete container can be filled and delivered to the recipient, in order to reduce freight costs.*

## 3.3

1. What does the bullwhip effect describe?

*The whiplash effect describes the phenomenon where, with locally limited information and the resulting local decisions, the entire supply chain is rendered imbalanced, with a slight fluctuation in customer requirements resulting in an ever-increasing spread in quantity requirements at every subsequent stage in the supply chain. A “cascade process” is initiated, which leads to upstream value-creation stages receiving an incorrect picture of the demand situation. This ultimately results in a build-up of excess stock across the entire supply chain for the purposes of meeting supposed customer requirements, but can still lead to quantity shortages at the point of sale.*

## 3.4

1. What success factors are associated with the use of CPFR?

*The success factors for a successful CPFR are that top management is involved in the implementation of CPFR and that there is mutual trust between the cooperation partners involved. The use of modern information technology is equally vital. A joint change to the organizational structure may be necessary. Employees must be involved according to their positions, including education and training. Customer proximity must be created so that successes can be identified at an early stage. Modern cost calculation methods are used to continuously measure the success of the corporation. In order to ensure that the correct weighting is applied to the specified success factors, continuous supply chain controlling is required.*

1. From which existing approaches is the CPFR model generated?

*CPR represents a progression of the ECR (Efficient Consumer Response) implemented in most major US consumer goods companies in the 1990s and is a further development of Efficient Replenishment techniques such as CRP and VMI.*

## 4.1

1. What phases are involved in Supply Chain Management?

*Classic Supply Chain Management is divided into three phases. Phase one, the Design phase, is the Strategic Supply Chain Management phase. This is concerned with determining the long-term, appropriate, and sustainable success of the entire company. The aspects to be decided on in the strategic phase are general factors such as determining the location, sales markets, the scope of business activity, and horizon planning (time and finances). Outsourcing or insourcing projects can also be planned and defined in this phase. Medium- to long-term goals are set in this phase and repeatedly adapted on a dynamic basis to the market, current business, and developments.*

*The second phase is the Tactical Supply Chain Management phase. This phase is characterized by production decisions and sales strategies. Phase two can be described as the medium-term phase, which means that the time frame is set at approximately twelve months (depending on the industry and product).*

*The third phase is geared toward the operational implementation of short-term decisions. Ongoing day-to-day business is mapped on this basis. This phase is characterized by operational procedures and processes such as customer orders, production and process planning, and logistical implementation from procurement to delivery to the end consumer.*

*As Supply Chain Management is closely interlinked with the various business functions, the transitions between the individual phases are often fluid in areas such as Logistics, Production, Finance, and Research/Development.*

1. Name the tasks involved in Supply Chain Management.

*Supply, disposal, and the reutilization of integrated company activities make up the fundamental tasks of Supply Chain Management. Supply Chain Management spans various (all) business units and business functions. These areas or functions are linked via interface descriptions within the processes.*

## 4.2

1. Name the core tasks in Supply Chain Management.

*For all areas, the core tasks of Supply Chain Management are reducing logistics costs and inventory, shortening throughput times (production, interim storage, final storage, testing, issue or sale), increasing planning certainty and planning quality (time scale from approximate to precise), and increasing flexibility in the areas of personnel and suppliers etc. The overall aim is to achieve an improvement in delivery service and on-time delivery performance, in order to increase customer satisfaction.*

## 4.3

1. Why is Sustainable Supply Chain Management necessary for the future?

*Dwindling resources are placing companies under constant and growing pressure from the public and stakeholders, particularly where the economical use of ecological and social resources is concerned. Sustainable operations are in demand, creating the need for good conditions in dealings with the environment, society, and local situations. In addition to economic incentives (increased turnover and profits and reduced costs), investors are demanding an urgent improvement in awareness and the implementation of environmental protection projects and social aspects. This, in turn, originates from the buyer’s market of “first world” countries. The buyer’s market is largely sensitive to the fair procurement of raw materials and to the creation of socially acceptable conditions for personnel in production facilities. Furthermore, natural resources, such as fossil fuels, are already being depleted and supplies will soon run out. Once again, both stakeholders and customers expect measures to be put in place to deal with these issues. As a result, the expansion of Supply Chain Management into Sustainable Supply Chain Management not only serves to gain strategic competitive advantages but also to achieve an improvement in image and a sustainable improvement in the environmental situation.*

## 5.1

1. Give 2–3 examples of operational goals and how they differ from strategic goals.

*Operational goals are intended for short-term implementation and are supported by specific measures. If a strategic goal is to increase market share by x %, an associated operational goal may be to develop new market shares in changed target groups, which is achieved, for example, by implementing intensified advertising measures in this new target group. For example, a cereal manufacturer’s largest target group is children and young people. By launching a new product and introducing appropriate advertising, the manufacturer makes a bid to attract the “best agers” target group.*

*An improvement in product quality as a strategic goal can be supported by the operational goal of reducing the scrap rate within the next three months through the implementation of better controls.*

*If the strategic goal is to increase customer satisfaction, an operational goal may be to expand the availability of Customer Services from the existing times of 9 a.m. to 5 p.m. to the new times of 7 a.m. to 8 p.m., or to visit existing customers at least once every six months.*

1. Give 3–5 typical strategic goals that a specific company could pursue.

*Examples of specific strategic corporate goals include achieving a market position among the top three companies in an industry, increasing customer satisfaction, improving product quality by x %, introducing a new product, or increasing sales by x %. Strategic goals are general, long-term requirements.*

## 5.2

1. Which methods associated with corporate strategies are you familiar with?

*The Bottleneck-Focused Strategy method is a seven-phase model in which an analysis of the actual situation is carried out first and special strengths are determined. The most promising business area and target group are then identified and defined respectively, the most urgent problem associated with this group is defined, and an ongoing innovation and cooperation strategy based on the ongoing dentification of the constant basic needs of the target group is determined. Core and ancillary processes are derived from this basic framework, which are broken down into time and cost plans and transferred to the planning phase.*

*The 635 method originates from an early strategy development phase. It is considered a brainstorming method for a team of six project members. In this method, a brainstorming session lasts exactly 30 minutes. Working in a team, brainstorming features a high level of diversification and a large number of overall options.*

## 5.3

1. What are strategic alliances?

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1. What are the reasons for entering into strategic alliances?

*There are various reasons for entering into strategic alliances. Possible motives include easier market access, intensive personal contacts, increased know-how, access to new technologies, time advantages, cost and risk reduction, realization of synergy effects, reduction of competition and circumvention of competition laws or trade barriers, a proposed long-term market exit from the segment, and many more besides.*

## 5.4

1. How should a cooperation be configured to ensure its success?

*In all forms of cooperation, the configuration of the cooperation combined with the common goals and the implementation of the contributions contained therein is decisive. Meaningful and goal-oriented contributions can be made, for example through the intake and reduction of resources – in this instance in the form of time, financial means, or personnel. The choice of location, infrastructures, and/or process adjustments should also be mentioned as crucial points. Transparent key figures and seminal forecasts provide the key to success. “Normal” success standards, such as sales, profits, or ROI calculations, are applied here.*

## 5.5

1. Why should an early warning system be introduced within a cooperation?

*Possible discrepancies between the target and actual status must be equipped with an early warning system in the form of suitable key figures and key figure reports in order that difficulties can be avoided or identified promptly. Provisions should be made for cases of conflict by agreeing escalation levels in advance and assigning areas of expertise. This also defines the decision-making framework.*

1. What adjustments may become necessary within the companies participating in a cooperation?

*Success is largely dependent on the extent to which management succeeds in integrating and putting the cooperation into practice, in allowing philosophies to become one, and in coordinating resources.*

*The business areas of the participants in the cooperation must be converted to joint processes. This conversion is both strategic and operational. In some companies, the entire technology is replaced. In addition, joint certification manuals, audits, requirement specifications, and all other forms of documentation must be adapted to the new processes in a timely manner. Supplier, customer, and employee management is then renewed or adjusted in the form of contracts and agreements.*

## 6.1

1. What is meant by the term “maintaining customer supply”?

*A company’s processes, contingency plan, and technologies must be carefully aligned in order to maintain customer supply, as delivery bottlenecks may result in customers migrating to the competition. This stipulation can only be ensured if action plans are combined with forecasting tools, firmly defined processes, and strategic supplier and procurement management. The definition of so-called supply propositions is crucial in this context. In addition, the need for fluctuation ranges is reduced. Supply propositions as a subject means that key customers, their principal product lines, and the procurement of material to operate these product lines are analyzed and the supply thereof is ensured in a variety of ways.*

## 6.2

1. Differentiate between core and additional services in disposal logistics. Give and explain 1–2 examples of each.

*Core services in disposal logistics are the storage, transport, and transshipment of residual materials. An example of this is the provision of containers to the customer, in which the latter collects the residual materials and, after completely filling the containers, notifies the disposal logistics company to come and collect them.*

*Additional services comprise the collection and separation of residual materials as well as packaging-related services. In the above example, an additional service provided by the disposal logistics company is to sort the collected residual materials at an internal warehouse and then send them to the appropriate recycling or disposal point.*

## 6.3

1. Outline a few points, such as the use of goods, raw materials, and operating materials, as well as the development of the company, company management, and employees.

*Recovery, reutilization, and the associated predictive and proven measures and strategies enable a holistic view, taking into account a sustainable way of life for people, companies, their way of life, and nature. As an example, against the background of increasing water and waste water costs and due to the limited quality and availability of untreated water, water as a resource should be used sparingly.*

*The need for raw, auxiliary, and operating materials is reduced and strategies for recovery and reclamation and for reuse and reutilization are developed. This point begins with the economical use of energy and water and ends with the use of renewable raw materials. An environmentally oriented development of company management and employees means that management and employees are guided toward environmentally oriented company policy in ongoing training courses and during informative events.*

1. Why is it necessary for a company to have a continuous improvement process and undergo further development?

*The continuous improvement and further development of the environmental management system is a constant endeavor and conducive to the success of a company’s environmental policy. Improvement processes and the further development of a company are necessary in environmental policy terms due to the fact that related legislation and standards are constantly being modified, which alone renders process adjustments necessary. In addition, innovations serve to deal more sparingly with increasingly scarce resources and thus to protect the environment in a sustainable manner.*

## 7.1

1. What are the motives for introducing quality management systems in organizations?

*Companies introduce quality management systems based on a wide variety of concepts, as it has been proven that quality plays a decisive role in the purchase of a service. Thus, it is hoped that the introduction of a quality management system will lead to a competitive advantage. The introduction of quality management systems also stems from companies wishing to create uniform standards, and of having the option to have these checked by neutral organizations, against the backdrop of an increasingly globalized market situation and rising levels of outsourcing. This not only serves to increase customer confidence in the quality capability of a company, which also strengthens the market position of certified company, but also enables manufacturers, who rely on the purchase of semi-finished goods, to protect themselves against product liability risks, as they only continue to work with suppliers who demonstrably comply with certain norms and standards (through certification and thus traceable processes).*

1. What is the difference between standard-oriented quality management systems and TQM?

*Total Quality Management (TQM) as a holistic model represents a further development of the standard-oriented quality management systems. “Holistic” means that the quality management approach permeates the entire company and, unlike standard-oriented systems, does not apply solely to certain areas.*

*In addition to product quality, TQM also encompasses management, process, and personnel quality as well as external relationships. Rather than formulating minimal criteria only, TMQ promotes general improvements to the status quo, whereby the entire company with all its employees, departments, and business areas, is involved in improving quality.*

## 7.2

1. Which aspects must be taken into account in holistic quality management within a supply chain?

*In addition to process and customer orientation, holistic quality management within a supply chain also includes continuous improvement management and error prevention, whereby the integration of suppliers and other participants in the process chain must be taken into account at all points. The restrictions imposed by the customer form the basis of all quality efforts in the supply chain. As there can be numerous participants in a supply chain, the quality requirements must be meticulously defined in quality handbooks. Aspects from the areas of environmental compatibility and sustainability must also be taken into account.*

## 7.3

1. What does QFD mean and what main factors does it take into account?

*QFD means Quality Function Deployment and is a subarea of Total Quality Management (TQM) in which the factors of flexibility, cost, and time rank as priorities alongside the key variable of quality.*

1. Which QFD tools are you familiar with? Describe one of these tools in detail.

*The House of Quality (HoQ) is frequently used as a planning and analysis tool in the context of QFD. This tool is a matrix that takes into account six different areas in product development and is reminiscent of a house due to the relative positions of the various elements.*

*Field A relates to customer requests. This is where the demands on design and functions that customers want from a product are recorded. Field B relates to the competition. This is where differences and similarities with competitive products are recorded. Field C deals with how the product design may need to be altered in order to meet customer requirements, while Field D is used to define the ways in which the company can meet the customer’s needs. Field E contains the cost-benefit calculation, while Field F finally contains the calculated target values.*

*Another tool used in QFD, which is also controlled via a matrix, is Bottleneck Engineering.*

## 7.4

1. What elements are contained in the organizational handbook and what is their function?

*The organizational handbook contains organizational charts, which show the hierarchical structure of a company or organization. This results in the solid- and dotted-line assignment of areas and employees in a graphic representation. In addition, the handbook contains graphic representations of process chains and program flows. These often take the form of flow charts, which show related activities in the correct order with the corresponding interdependencies.*

*Other examples of elements stored in the organizational handbook are documents and tools for controlling and monitoring quality management such as the job description (a document that describes and defines the mandatory role of a position in the company) and the function chart (here, the overall task of a position, team, department, or entire organization).*

1. What is the purpose of flow charts?

*In flow charts, related activities are shown in the correct order with the corresponding interdependencies. In addition to showing individual sequences, the flow charts also visualize branches or feedback loops. A detailed flow chart is often developed from existing function charts. In this connection it should be noted that most flow charts cannot be drawn up on a short-term basis, but unfold as part of an overall planning process, which is adapted in stages during day-to-day business.*

## 8.1

1. Why is modern technology used in Supply Chain Management?

*Supply Chain Management means that all activities along the value-creation chain are coordinated. It is therefore crucial that the information required to make strategic decisions is always available, both in monetary and physical terms, and in the context of information flow. Due to the interorganizational character of the supply chain, this applies to all information chains, from the suppliers to the end customer. As highly complex information contexts are involved here, Supply Chain Management interacts with modern information technologies, which render the plethora of required information usable and manageable. Supply Chain Management and the underlying strategies are promoted, controlled, and accelerated by Information Technology (IT) and the associated systems.*

1. Which IT tools used in SCM are you familiar with? Describe two of these tools in detail.

*IT tools used in SCM include EDI, WebEDI, RFID, or EAN barcode.*

*Electronic Data Interchange or EDI describes the fully automated and seamless electronic exchange of structured business data, in which dispatch notifications, customer orders, purchase orders, complaints, invoices, and other business transactions are exchanged between several computer systems.*

*The EDI connection in Supply Chain Management must run with point-to-point accuracy between suppliers and customers. All participants in the supply chain form interfaces from which data is fed into the IT system and processed by it on the basis of certain parameters.*

*RFID (Radio Frequency Identification) is a technology used in the non-contact, comprehensive identification of objects and the collection of any information on the basis of radio waves, both in the storage area and directly in retail. The relevant product information (item number, manufacturer data, batch or lot sizes, gross and net weight, price) is arranged on labels, which are attached directly to the product. This data can be accessed and retrieved by all stations in the supply chain by reading out the labels.*

## 8.2

1. What is a CRM system and when is it used?

*Customer Relationship Management (CRM) systems are used when ERP systems have reached their limits. This often occurs when it becomes necessary to incorporate process chains from external partners in order to optimize the supply chain. These process chains may involve controlling the entire logistics chain, from supplier to customer, or managing customer relationships. CRM systems handle all processes that arise in customer relationship management, ranging from market research processes and marketing to new customer acquisition, advertising campaigns, and the integration of production processes in sales strategies or service processes. Such systems are programmed on an individual and company-specific basis.*

1. Why is ERP software used?

*ERP software is used to pursue strategic corporate goals and makes a viable option if it creates greater transparency, which can be used to consolidate similar activities or optimize the process organization and thereby achieve a cost reduction effect. Other key points in the use of ERP systems include the desire on the part of the company to respond more flexibly to the market, and to have an authoritative management system with a suitable system of key figures. It is hoped that this will also lead to an improvement in quality and service.*

## 8.3

1. What is the purpose of the Balanced Scorecard in Supply Chain Management?

*A Balanced Scorecard that has been specifically aligned to Supply Chain Management, is a tool that gives Supply Chain Controlling a clear and comprehensive account of all relevant aspects, and combines the fundamental tasks and goals in a structured manner.*

*The BSC is used to visualize company goals and strategies, focusing on several company levels, so that various perspectives can be examined. As the BSC guarantees a continuous overview of a wide variety of company key figures and thus of the overall situation, it works as a strategic decision-making tool and shows the extent to which a given strategy can be realized and is implemented in day-to-day business.*

1. What different perspectives are examined using the Balanced Scorecard?

*The classic Balanced Scorecard describes four basic perspectives: Financial perspective, customer perspective, internal process perspective, and the learning and development perspective. The fifth dimension takes into account the supplier perspective. This is where the comprehensive services of the supply chain, from the service partner or supplier side, are recorded. The sixth dimension relates to the structural dimension, which captures and evaluates the requirements governing network technology and the integration of supply chain partners.*