Service Standardization
“Service standards enable us to develop from a service jungle to a service garden.”

Prof. Dr. Günther Schuh
The number of service providers is growing daily: from the telecommunication sector to the health service, however, it is rarely easy for customers to select the most suitable provider. When choosing a product, by contrast, standardization helps the customer make the right decision.

The obvious question arises as to whether it is possible to subject services to a similar standardization process? The answer is not just “yes, it is possible” but “yes, they must be standardized.”

The standardization of services will play a principal role in the further development of a service economy. Through standardization, similar services with different characteristics and structures become comparable. The standardization of services also promotes reliability, effectiveness, trust, and improved economic efficiency. Most important, it benefits the service receiver (see The German Standardization Strategy, 2004).

Important for businesses

■ The creation of standards in the service sector strengthens the innovative and competitive ability of individual service companies.

■ Standards not only encourage economic growth and competition, they protect the consumer and create conditions for fair and free trade.

■ Service companies that implement both company-specific and sector-specific standards possess competitive advantages. They decrease their transaction costs and are perceived as businesses that actively promote the security of their customers.

Translator’s note:
The German Standardization Strategy distinguishes between “Normung” covering the development process of full-consensus standards (“Normen”), and “Standardisierung” covering the development process of documents with a limited consensus by standards bodies (“Standards”). In the translation, the terms “Normung and Standardisierung” are translated by the English term “standardization” to cover both activities. Consequently, whenever “Normen” and “Standards” are referred to in the German text, the term “standardization” is used in the English translation to cover both. When it is necessary to distinguish explicitly between the German terms “Norm” and “Standard” (e.g. in Goal 5), “Norm” is rendered by “full-consensus standard” and “Standard” by the term “specification”.

Source: German Standardization Strategy
Editor: DIN Deutsches Institut für Normung e. V.
I. The challenge

Standardization simplifies everyday life. For example, it is not necessary to consider whether an A4 sheet of paper fits into an A4 envelope. An enormous number of similar standardizations not only make consumers’ lives easier, they are of vital importance for commerce. National norms and recognized industrial standards facilitate the provision of high quality products by individual companies, ensure the comparison and interchangeability of goods, and thus increase productivity. These standards not only contribute to the growth of national economies, but facilitate regional and global transactions as well.

Whereas some standards have long existed in many areas of manufacturing and have proven decisive for success in these areas, there is almost a complete lack of norms within the service sector. Many observers of this sector now propose that standardization is required to improve the production and exportation of services – just as it does for material goods in Germany and other countries with well-developed economies. The creation of service standards also will have a favorable effect on the internationalization of the European service sector.

II. Standardization as an opportunity for service companies

1. Why standardize services?

Service standards are of particular significance for Germany and many other countries in Europe because services account for over 70 percent of their gross domestic products. Standards can increase the functionality and profitability of this dominant aspect of the economy in many ways. Standards contribute to transparency – and therefore comparability – of services. When quality can be evaluated, services can be compared with one another and evaluated (Gaub, 2007). However, the limited measurability and the complicated evaluation of service quality – both resulting from the immaterial nature of services – are therefore starting points for standardization (Schuh, 2007).

Standards permit greater efficiency in development and processing by individual providers. Growth is achieved when quality services can be reproduced over time and in various locations. Technical knowledge and innovations can be distributed more swiftly once standards have been put in place. In addition to increased efficiency, uniform evaluation standards contribute to an increase in effectiveness that can primarily be explained by the increase in customer utilization, and an accompanying increase in price acceptance (Gudergan & Hoeck, 2002). This growth in efficiency and effectiveness has a broader economic impact because it facilitates the development of new markets.

For customers, standardized services represent clearly structured offers with a low risk in part because they can be com-
Gudergan and Hoeck (2002, p. 18) define standardization as a term for unification. They say that a “standard is in the broadest sense the result of unification...of products, processes, interfaces, etc...which has taken place within a system [e.g. company, sector, or economic area: nationally or internationally].” Blum et al. (2001) and Verman (1973) have a similar point of view. Together these authors point more specifically to the importance of standardized terminology, personnel capabilities, technology, and organizational processes.

pared (Mörschel, 2002). For businesses, standardization means better opportunities for the swift and extensive industrial introduction of innovative concepts and/or services (Glos, 2007). With the choice of the right point of standardization during the development process, a service can be offered to interrelated markets; standardization therefore encourages competitive ability (Schauerte, 2007).

A trend study carried out by the Research Institute for Rationalization at the Rhenish-Westphalian University for Applied Sciences (RWTH) Aachen, in which 83 German companies were surveyed within the investment goods industry, came to the conclusion that there was a significant connection between the operation of standards and commercial success within the service sector. It was established that successful businesses do not merely place great significance in standardization, but also utilize these standards on an above-average basis. Companies also emphasize that they have further requirements concerning the area of service content and provision processes (Hübbers, Rühmann & Bömmels, 2007).

Prof. Dr. Günther Schuh, Director of the Research Institute for Rationalization (FIR), also emphasized the significance of standards for the development of innovative services during the Innovation Forum in Aachen on November 21, 2007. In his lecture entitled “Service standards – success in competition with customer-oriented solutions,” he underlined that “it is not only important to touch the spirit of the customer and inspire him through added value,...compatibility through standardization prior to the market phase is the simplest way of making technology user-friendly for the customer.”

2. Central Characteristics of Standardization

Which characteristics of standardization do the providers of services have to take into account to provide an innovative service for their customers, and also convince them about the service’s reliability and quality? Six central characteristics of standardization have been addressed by H. Hoeck and G. Gudergan (2002, pp. 102–116).

Potential for Standardization

In a first step towards standardization, it is important to identify areas with a potential for standardization in which customer demand also exists.
Background

Terminology
Unambiguous communication between a service provider and a service recipient is only possible through the description of services using clear terminology. In addition to immediate communication benefits, standardization of terminology serves as the basis for the development of additional standards.

Personnel
Standardization of personnel qualifications facilitates the recruitment of appropriate workers. This area of standardization is important because customers often choose a service provider primarily on the basis of personnel and the quality of the service they deliver.

Technical systems
The standardization of technical systems and their interfaces, often described as compatibility standards, allows exchange among actors in a specific service market.

Processes and approaches
The standardization of processes or approaches clearly defines how a service is to be provided, which minimizes errors.

Results
Standardized results are achieved through the establishment of qualification requirements and standards that define how a service is to be provided. The quality of results is further supported by uniform processes for the evaluation of a service provided. This encourages transparency for the customer, and can in turn be utilized as a referential standard in the development of more innovative services.

III. The forms of service standardization: company- and sector-specific standardization
Companies that standardize can have a substantial influence on the services market because they are significantly involved in its structuring. Through participation in standardization committees, these companies develop an enormous knowledge advantage and a large head start in further service development. They become familiar with the standardization activities of their competitors, and they become familiar with the political sector that sponsors standardizations. This knowledge permits them to greatly reduce incompatible R&D expenditures and begin developing standard compatible services before they are officially specified by legislation.

In addition to involvement in service-specific standardization, involvement with sector-specific standardization also brings great advantages to individual service providers. Safety for humans and their environments that is achieved through company- and sector-specific standardization is likely to expand the market (Gaub, 2007). Classified directories in which standardized services and perhaps prices are listed encourage transparency and provide a better price-performance comparison by the customer, which also tends to increase sales.

Classification of services also helps providers compile their offerings and specify promising additions. A uniform format can reduce transaction costs for the service provider (Gudergan & Hoeck, 2002). Further advantages of sector-specific standardization include improved legal security, the encouragement of continuous process improvement, and opportunities for rationalization. Additionally, redundancies in the development of services can be reduced (Gaub, 2007).

In conclusion, when compatibility is created through company- and sector-specific standards for the trading of services, discrimination is reduced (Schauerte, 2007; Schuh, 2007), marketability of innovative services is encouraged, and a substantial contribution to economic growth is often achieved.
Standardization as the Basis of Innovation with Services

Prof. Dr. Frank Piller, RWTH Aachen, Chair for Technology and Innovation Management, in discussion with Prof. Dr. Günther Schuh, Director of the Research Institute for Rationalization (FIR)

Prof. Schuh, are standardization and service a contradiction in terms?
No, this is a widespread prejudice that still haunts people’s minds. It originates from the assumption that either a service is perfectly tailored to the customer, or a standardized product is offered which ignores natural differences in customer needs. The area of standardization naturally originated out of the material goods sector, but is steadily gaining significance within the service sector. This development is also based on the increasing interdependence of goods and services within the framework of hybrid value creation.

Why do norms and standardization make sense and are they really necessary?
Standardization aids the comparison of services and service providers, and additionally provides a basis for the evaluation of service quality. Furthermore, it encourages the efficient development and provision of services.

Are new perspectives opened up by the standardization of services?
The transformation to a service society is one of the most significant trends of our time. Over 70 per cent of overall economic value creation now originates in the service sector. Few businesses limit themselves exclusively to the production of material goods, but provide what customers require, i.e. a complete solution to their problems not just an individual product with several services attached. This is precisely the area with great opportunities: providers have the possibility of entering new markets with innovative services in which services may even represent the primary element of value creation.

What challenges do you see within this area?
The challenge is inherent in the conflict between the individuality of a service and its transaction efficiency. It is important to touch the spirit of customers and inspire them through added value, but a company must also ensure service compatibility through standardization prior to the market phase that makes the service user-friendly. For example, this is achieved in PAS 1018 “Essential structure for the description of services in the procurement stage, a standard developed in cooperation with the Deutsches Institut für Normung (the DIN).”

What approach to the standardization of services do you think is important for the future?
It is necessary for both business people and researchers to detach themselves from the concept that the provision of any kind of service must inevitably be individual to be successful. In all cases it is vital for the operation of innovative services to rely on precisely formulated processes for planning and development: this is the only path towards the efficient utilization of resources. Standardization plays an ever greater role in corporate practice. Without it, company-internal and cross-company transactions would be considerably more time-consuming and expensive. In fact, standardization represents an opportunity to escape from increasing price competition and differentiate oneself through quality, innovation, and transparency.
Presented by Heinz Gaub, member of the management board for the business area standardization at the Innovation Forum “Longing for Simplicity” in Aachen on November 21, 2007

The DIN – Deutsches Institut für Normung e.V. – is a private sector registered society established as early as 1917 in Berlin. It now represents Germany on a European and international level within the area of standards and norms. DIN undertakes standardization in the classical sense, whereby special regulations are applied to the electro-technical sector. The DIN is financed to a small extent by the contributions of its approximately 1700 members; 60 per cent of its budget is financed by profits from work results; the remainder is made up of project-based contributions from business and the public sector.

The DIN has carried out a variety of research projects together with cooperation partners that have produced standards for services. The basic document describing this work is the DIN expert report 116, which addresses the challenge of standardization in the German service industry, and describes the potential and necessary requirements for action. A variety of PAS (publicly available specifications) have also been developed:

- PAS 1018, which elucidates the essential structure for the description of services in the procurement stage
- PAS 1019, which provides a structural model and criteria for the selection and evaluation of investing services
- PAS 1047, which describes a reference model for the provision of industrial services, in particular for troubleshooting.

Initial steps have also been undertaken to further standardize core processes within the industrial service sector for which corresponding PAS will have to be developed. The objective is to provide reference models, technical regulations, and also standardization of all elements of the service sector to enable transparency in their presentation.

Further activities at DIN include other cooperation projects. The IS project will address the structure, extension, and improvement of international trade. CHESSS is a European project that examines the utilization and potential of horizontal service standards. Two areas were undertaken by DIN: a) service security and b) specification, purchasing provision, and quality of services between businesses. INS – Innovations with Norms and Standards – is a project that focuses on services as a principle area of economic growth. Here the aim is to examine the innovative ability of small- and medium-sized businesses with the aid of ratings for innovation. Additional reliable regulations concerning the monetary evaluation of patents should provide helpful orientation for organizations.

DIN – Deutsches Institut für Normung e.V. (German Institute for Standardization)
Conclusion

The standardization of services can make a significant contribution to the strengthening of the German economy and other economies as well. Manufacturing would be unthinkable today without the advantages of standardization. Standardization facilitates production in many ways, and offers uniform evaluation criteria for suppliers that have a positive effect on business relationships. Standardization creates economic advantages by facilitating access to major regional and global markets. It also supports the purchasing decisions of customers.

This experience has great significance for the service sector. The standardization of services can improve service production. It will encourage security and protect health, the environment, and consumers. Standards can also enable swift examination of the feasibility and practicability of innovative services. They can exert a positive influence on the willingness to invest on the part of potential financiers. In brief: standardization helps open the black box of services to show what is concealed behind the service itself.

In addition to the six central characteristics for the standardization of services described above, a primary requirement for the successful realization and implementation of standards in the service sector is the sensitization of economic and political decision-makers to the importance of standardization. Increased internal communication, the acceptance of standardization as an integral part of a company, and the implementation of internal training measures, are all necessary within the business sector.

Operational technology and innovation management in many sectors is today unthinkable without standardization. It has played a large part in political deregulation, the self-administration of the economic sector, and the reinforcement of legal conformity (see Die deutsche Normierungsstrategie [The German Standardization strategy], 2004).

Businesses profit from standardized services because they lead to improved competitive ability that has a positive influence on business success. Customers and service recipients can take advantage of reduced risks, greater transparency, and the associated higher degree of comparability.
Hot Spots of Service Standardization
DIN – Deutsches Institut für Normung e.V.

German Institute for Standardization

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Further activities at DIN include cooperation projects. The project IS will address the structure, extension, and improvement of international trade. The European project CHESSS examines the utilization and potentials of horizontal service standards. The project INS – Innovations with Standardization – focuses on services as a principle area of economic growth. Here the aim is to examine the innovative ability of small- and medium-sized businesses with the aid of the innovation ratings.

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Bissantz & Company is a German software company specializing in solutions for challenging tasks in the area of data analysis, planning, and reporting. The prize-winning projects and technologies offered by the company are being further developed from research and customer information, and are actively marketed worldwide under the name of the company and as an OEM solution.

Bissantz & Company offers its customers both individually designed and largely automated data warehousing. In a manner similar to the definition of a CAD model, a consultant defines a computer-assisted structure for the data warehouse with the aid of the DeltaMaster Modeler. This is an integrated software suite, inserted as the front-end of a wide range of OLAP data banks such as Microsoft Analysis Services, Oracle OLAP, SAP BW, Hyperion, MIS Alea, Applix TM1, and Panoratio. The resulting meta-model is then utilized for the automatic construction of the data bank including the validation of all structures, and for the transformation and loading of all data.

The advantage Bissantz provides, in comparison to other data warehouse projects, is that data can be recreated at any time with the aid of the meta-model. This permits extremely short iteration loops for the extension and improvement of a data warehouse. As a result, the customer profits from significantly shorter project duration and an iterative development process. Useful intermediate results are guaranteed, but in addition, Bissantz provides an efficient method for the long-term development and maintenance of the data warehouse.

More traditional data warehouse projects necessitate a high degree of manual effort, and display an insufficiently validated quality of results. This has frequently led to the failure of projects. Bissantz & Company has offered its “Industrialized Data Warehouse Construction and Maintenance” since 2005. The service has enabled the company to reduce the duration of projects by 60 % to 70 %. They also design and implement complete business intelligence projects.

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G-NE GmbH

Certification of IT providers:
G-NE sets standards

“Only those who are familiar with their service can boast about it,” is the motto of G-NE GmbH, founded by Dr.-Ing. Robert Scholderer and Nico Jäckel M. A. in Karlsruhe. The company has over 10 years of experience within the area of IT service management and provides a full range of services. Their “Pact Service Management Suite” ensures profitable service level management, and they also offer a modular portfolio of flexible services. Customers are able to save substantially on IT costs because G-NE is oriented toward their business objectives.

In addition to monitoring and controlling IT performance, G-NE offers its customers an independent examination of service level management. In cooperation with selected partners, such as the South German technical inspection agency, TÜV Süddeutschland, the company produces certification for IT providers.

Internal and external IT service companies are subject to increasing pressures; the service provided must be transparently displayed to customers who want to know exactly what they have paid for. Economic return is increasingly coupled with the service, and adherences to service agreements have become an economic necessity. G-NE offers customers a service level agreement over the entire life-cycle, including monitoring the IT service and applications, and reporting on the administration of service contracts.
PINCAR AG

Cost-effective vehicle operation with the PINCAR vehicle management system

The PINCAR Suite provides vehicle fleet operators with a comprehensive service system for the electronic control and administration of their vehicle fleets. Solutions are also designed for the operation of car pools, car rental and leasing companies, and for car sharing. The service is consistently oriented towards increasing efficiency and optimizing operations to lower costs. “We make results from data,” is the company slogan.

PINCAR revolutionized vehicle management about three years ago. The starting point was making the procedures in car pools and vehicle fleets more efficient. The service spectrum now ranges from an electronic log book and route planner, to the calculation of services. Numerous combination possibilities enable the realization of specially tailored concepts for the particular requirements of individual users.

The innovative PINCAR Suite is based on telematics and the internet. Its technology was approved by the Federal Office for Motor Vehicles (KBA), and can therefore be integrated in all vehicle models registered in Germany. It has now been patented worldwide, and is well on its way towards securing a commanding position in the global market. The Suite goes significantly further than previous commercially available systems. This is made possible by the utilization of specialized CAN bus technology that permits passive access to the on-board computer of each individual vehicle to convey exact data without time delay or media breaks.

In 2007, the company was awarded the “Special Prize for Innovative Services” by the federal state Rhineland-Palatinate for the development of PINCAR Suite.

B2X care Solutions GmbH

Standardized IT solutions revolutionize the after-sales process

B2X Care Solutions offers innovative after-sales solutions for companies in the IT, telecommunication, and entertainment electronics industries. In an alliance with a global network of selected service partners, the company optimizes the entire after-sales process chain from the acceptance of a service, through all stages of repair, to the efficient supply of spare parts. Standardized IT solutions cover all services and are integrated in a single platform called Care4you:

- Care4call supports the acceptance of a service up to fault diagnosis and warranty test
- Care4repair controls the entire repair process, including reporting
- Care4claim logs repair services and processes billing
- Care4logistics monitors all products, spare parts, and processes
- Care4supply supplies service partners with spare parts, updates, information, and tools

B2X Care Solutions’ unique price-model synchronizes expenditure for services, warranty terms, and customer turnover at all times. The individual processes are fully automatic, and thereby offer clients transparency and flexibility at all stages of the process. That enables customers to manage their complete after-sales business more profitably, and guarantees return on service - without investment or reserves.

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Alexander Wolf - Managing Director
Many customers now make hotel arrangements online. The internet allows them to compare different offers in order to discover the most competitive prices. Until recently, however, it was necessary to undertake a laborious search through all online travel firms to find the cheapest offer. trivago has developed a simple and effective solution to this problem. The company brings transparency to the costs jungle with a hotel price comparison system that is unique in Germany.

The innovative aspect of trivago technology is that the prices offered by all individual firms for the same hotel are visible simultaneously. The user can see at a glance how much can be saved with different companies. Evaluation of the data offered by trivago shows an average of 32 percent differences in prices offered by different travel firms. In fact, it is not uncommon for the same hotel room to be offered at a price difference of 100 euros per night.

Even those who prefer to book directly at a hotel should first consult trivago, since agents frequently offer more competitive prices than the hotels themselves. All major booking portals (e.g., HRS, hotel.de, Expedia, and many more) and the larger hotel chains, have already been integrated into trivago. This price research system currently includes over 260,000 hotels and is utilized as a cost-saving tool by a range of large-scale companies as well as individuals.