

Research in the Services Sector

(Final Report)

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„Services have come to dominate our economies. Whether you manage a traditional service firm or a manufacturing company, adding value through services has become an essential way to compete. ...Today customers are looking for service value, comprehensive solutions, and memorable experiences” (Gustafsson, Johnson, 2003).

1. Challenge for Europe: On the Way Towards the Service Society

The development towards the „Service Society” has long viewed to be just an academic vision but has already become a reality to a large extent. Innovative services drive and go along with economic change, they act as a motor for social renewal and contribute significantly to strengthening the competitiveness. However, products and services of European enterprises will only be able to stand their ground in the international markets in the long run if we succeed in accelerating the dynamic innovation even more with suitable services.

The tertiarisation processes which can be observed are impressive and can hardly be denied. Nevertheless the development cannot be grasped adequately with a purely sector-focused view, let alone be sufficiently explained. For example, today in Germany, the share of services in the gross value added has already reached about 70 percent. It looks more or less similar in the EU. Even though this figure includes the sector of public services, this is still an indication that we have arrived in the service society at least statistically.

However, this does not mean that our institutions are also prepared for this change. Rather, our complete institutional structure – from qualification and advanced training offerings to the organisation of work – is predominantly characterised by the concept of „good” production work. In other words: The predominant models of an industrial organisation of operations and work are still strongly present in the minds and institutional structures – sometimes even where it is rather counter-productive. This will still require quite some convincing on the part of service research.

Nevertheless it can be noted that both the academic and the public discussion about services tends to succeed in overcoming one-dimensional views and the associated preconceptions. It is hardly denied any more that the potential of services is not limited to hair-cutting and pizza service. However, people often forget about the fact that the cause/effect relationships of such services have not yet been investigated completely. This is especially true for the design of the complex interaction processes between customers and service providers.

As a matter of fact, the rapid growth of services is an indication of fundamental changes in the production and consumption structures of our societies. Especially the use of new information and telecommunication technologies results in value-addition processes characterised by a more intensive division of labour and a higher degree of

specialisation. Knowledge and labour intensive services are separated from traditional working processes and linked back to the original service creation process as independent services by market-economy transactions. In general, this phenomenon is referred to as „outsourcing”, which is a rather insufficient concept for the profound transformation processes taking place. All in all, research does not know a lot about the interrelations of such processes.



Fig. 1: Have We Already Arrived in the Service Society in Europe?

Over the past years, the significance of the service sector in Europe has increased steadily. Over two-thirds of those employed in Europe now work in the service sector and between 60 and 70 percent of the annual gross value added figure achieved by the majority of European states can be attributed to services. This trend will also continue in the next few years because most economic growth is currently coming from the service sector. In particular, the liberalisation or deregulation of services in many markets, increased efforts with respect to globalisation and internationalisation of many European service companies, and the increased use of innovative information and communications technology - all this will favour the positive development of the service sector further.

To date, the service sector has tended to be neglected in Europe. There is still a very intense fixation on production, i.e. the producing sectors are the focus of the economy, politics, public attention, research and training. The opportunities offered by the ser-

vice sector to tap into new areas of business and to create new jobs - in particular through the export of sophisticated services - have, in contrast, not been exploited often enough. However, in recent years many European countries have started to change their thinking in this respect and have taken up the challenge to play an active role in organizing the change towards a society orientated to services. During this process, it has become increasingly clear that services play a crucial role in furthering the development of Europe as a place to live and do business. The economic potential is vastly far from being fully exploited.

The rapid integration of the European economies does not only challenge the political actors, but also requires new answers from a European oriented service research. With the membership of the eastern countries Europe became the largest domestic market in the world. Due to the expansion, henceforth the international competitiveness of the European Union will be less defined by the power of national economies but by the ability to succeed in creating a common European innovation management.

The development of the European Union to the most competitive region of the world, as it is declared in the strategy paper of Lisbon by the European Commission, will require an increasing investment in the research for innovative products and services. In other words, Europe has to recombine the cultural diversity, the existing know-how and the different economic strengths of the single member states.

Within this process the development of services plays a vital role. Services as a central link to customers and markets constitute an important basis for innovation, economic growth and employment. However, up to now economic export and internationalisation strategies were mainly focused on the production of goods. With the implementation of a common domestic market for services, the attention shifts to the process-related dimension of economic transactions.

It is widely accepted that the growth of services can not be comprehended, nor be explained, by a mere sectoral view. In the course of changed patterns of value adding we observe complex interaction processes between the production of goods and services. Particularly the use of new information and telecommunication technologies causes forms of value adding, which are characterised by a more intensive division of work and a higher degree of specialisation. Especially knowledge and labor intensive tasks are organised as independent services which are coupled back to the value adding chains by market transactions.

The changed patterns of value adding are most obviously reflected in the massively growing sector of business-related services. These services provide an enormous potential of high quality premium jobs, which has been insufficiently exploited up to now. Qualified services are also highly connected to the competitiveness and the innovation power of business firms. Empirical studies show that companies which shape their

business processes towards a logic of services achieve high competitive advantages and are able to enter new markets.

Nevertheless, there is little knowledge about how to develop, design and to model service driven innovation processes systematically. A better understanding of the interrelationship of services and innovation processes could lead to sustainable enforcements of international competitiveness. This does not only affect the providers of investment and consumer goods but also the providers of pure services.

2. Europe's science base: Spotlight on international research activities on Services

The main focus of the study „Service research today and tomorrow“ (Ganz, Meiren; 2002) of the Fraunhofer Institute of Industrial Engineering in Stuttgart, Germany, was the investigation and analysis of the current state of knowledge in the field of methodologically-oriented service research. A key aim of the study was to identify long-term trends and to reveal deficits in current research.

The study picks up the thread of earlier research work undertaken in the years 1995 to 2000, in particular activities in the framework of „initial projects of priority“ launched as part of the „Services for the 21st Century“ programme initiated by the German Federal Ministry of Education and Research. A great deal has been learnt in the meantime and the focus of research has shifted to some extent. While research work performed in the past – heavily influenced by Anglo-American members of the service research community – concentrated mainly on service marketing and quality, disciplines such as work design and engineering sciences have made a stronger impression on more recent service research. Given that the study was based on 25 interviews of international Experts, it is important at this point to emphasize that it would be inappropriate to claim that the results generated were in any sense representative. Despite this, the results of the interviews with recognised experts in the field of service research are of considerable moment and offer valuable support for planning further research.

2.1 Service research topics

The following table quantifies the statements relating to service research topics from the study „Service research today and tomorrow“ (Ganz, Meiren; 2002). The figures represent the number of ratings for each item. The fact that the ratings in one row may not always add up to 25 is due to the fact that not all the interview partners felt able to give a qualified opinion about all the sub-topics addressed. A „0“ means that none of the interviewees selected this scale value.

		Research intensity (in the past)					Need for action (in the future)				
		Low		High			Low		High		
1	Basic research topics										
1.1	Definitions, typologies and morphologies of services	2	3	9	4	5	1	8	3	6	5
1.2	Models and systems of services	1	8	9	3	1	0	1	5	11	4
1.3	Specifications and standards of services	2	5	14	0	1	3	0	10	5	4
2	Applied research topics										
2.1	Service innovation (NSD, design, engineering)	3	9	6	5	0	0	1	2	7	13
2.2	Service management (marketing, HR, operations)	0	5	9	8	1	0	1	1	14	7
2.3	Benchmarking and assessment	1	7	11	3	0	0	1	8	10	3
3	Mega trends										
3.1	Internationalisation of the service economy	4	9	6	4	0	0	0	5	9	9
3.2	Professionalisation of the service economy (outsrc., automat.)	5	9	4	3	1	0	0	11	5	6
3.3	Quality of service employment	5	9	6	2	1	0	0	5	13	4
4	Growth sectors										
4.1	Business services	1	8	8	4	1	0	0	5	7	10
4.2	Educational services	1	6	10	5	1	0	1	8	8	6

		Research intensity (in the past)					Need for action (in the future)				
		Low			High		Low			High	
4. 3	Financial services	0	1	5	9	7	0	1	12	8	1
4. 4	Information services	1	3	8	9	1	0	0	3	9	10
4. 5	Media and telecommunications services	1	4	11	6	1	0	0	3	13	7
4. 6	Non-professional services („unskilled jobs“)	3	14	2	1	2	4	6	4	3	5
4. 7	Public services	0	6	14	2	1	0	2	7	9	5
4. 8	Services in manufacturing industries	2	14	3	4	0	0	0	1	13	9
4. 9	Social and health services	0	2	11	10	0	0	0	4	15	4

Table 1: Distribution of expert weightings of issues related to service research

2.2 Basic research topics

As far as basic research topics are concerned, the table values highlight the fact that issues dealt with in the realm of pure research are considered by the experts to be of growing relevance. A more detailed view shows that the widest variance in the experts' ratings of research requirements is expressed in their responses to the definitions, typologies and morphologies item¹. This suggests that the experts' views divide sharply on the value or futility of pursuing theoretical and methodological work on definitions, typologies and methodologies, the benefits such work has generated in the past and, in particular, the need for research in this area in the future. There is however broad consensus regarding the current status of basic research topics. The majority of interviewees believe that the research work undertaken to date has been mediocre. The picture as far as future research requirements is quite different however. While a third of the interviewees argued that work undertaken in the past was adequate, or that service research was unlikely to profit from further definitional, theoretical or methodological input, just under half of the experts believe that there is an urgent, or even very urgent, need for more research in this area.

The experts also perceive a growing need for research on the development of new, meta models capable of structuring, explaining and operationalising complex interrelationships in the services sector. While researchers resort time and again to the main established models, such as the service profit-chain, the gap model, and SERVQUAL, there is a growing awareness that if service research is to develop further, improvements will have to be made to current models which are too generic in nature and yet which focus on highly specific aspects and are difficult to use in applied research.

The analysis of the responses to the specifications and standards item show that significance of this topic has changed more fundamentally than any other in the section on basic research topics. While the intensity of past research in this area was only regarded as very high by one of the experts, more than a third believes that there was a great need or very great need for research in the future. Despite the increased importance attached to this item, a more detailed evaluation of the qualitative responses presents a more differentiated picture. Some of the responses indicate that, although there is a need for action, this is more the responsibility of the service industry than that of the research community. Others, on the contrary, believe this would be a relevant area of research. However, the interviewees believe that it would only be sensible to carry out further activities in this area if progress were also made in the realm of theories and models. If such new models and theories are not forthcoming, there is believed to be a danger that standardisations may be oriented towards the realities governing the production of goods and would fail to do justice to the specific characteristics of services. The aim must be to understand the logic of services in general as well as in specific cases, from the gastronomy services provided by McDonalds through to the educational and research services provided by an university. Many experts also believe that more needs to be known about where specifica-

¹ An equal degree of variance also occurs for „Non-professional services“. Refer to the statement on relevant growth sectors in this chapter.

tions and standardisation would be useful and where not. One of the key questions in this area is „Does standardization make customers and employees any happier?“

The most succinct responses suggested that supply-driven standardization, i.e. standardization initiated exclusively by service companies, would be a step in the wrong direction and would fail to reflect either the realities or needs of the service world. On the contrary, the future of successful service providers is deemed to lie in personalization and „customisation“ rather than in individually-tailored customer solutions. For this reason, respondents believe that the time is ripe for more customer-centred research efforts as part of the drive towards achieving increasingly demand-driven service offerings, particular in the overall field of e-services.

The general tenor of the qualitative responses regarding basic research issues reveals both an awareness of the need for more research as well as a considerable air of uncertainty as far as the direction, feasibility and benefits of basic service research. Responses are coloured simultaneously by both a degree of resignation and scientific curiosity. This resignation can be explained by the heterogeneity and complexity of services as a research object and the concomitant problems of adequately expressing this diversity in theoretical terms. However, resignation is also counterbalanced by the unmistakable scientific appeal exercised by the gradual emergence of service research as an increasingly autonomous and distinct academic discipline. It would be fair to assume that the perceived need for the formation of autonomous, basic and meta theory from an academic and research-oriented standpoint is all the greater the more that research issues relating to the broad field of services emerge from the shadow of established business management sub-disciplines such as marketing. In fact, a large number of the responses provided by experts stress that the ongoing development of this area of research depends in particular on integrated theories and models capable of encompassing and describing the basic „nature“ rather than just particular aspects of services.

2.3 Applied research topics and mega trends

The questions asked with regard to applied research topics focused on the status of research and future research needs in terms of service innovation, benchmarking and assessment as well as management issues such as marketing, operations management and human resources. With regard to mega trends, the focus was on the internationalisation of the service economy, rationalization strategies in the service economy, and the quality of service work and services themselves.

In the view of the experts the greatest need for applied research and research into mega trends will be in the areas „service innovation“, „internationalisation of the service economy“ and „service management“.

The detailed responses reveal that in the field of „service innovation“ in particular, research will (or should) focus on the process of developing new services in the sense of service engineering and service design. Here, too, the experts clearly expressed the view that it would be desirable if future research activities were to take

better account of the specific characteristics of services: „What we need is the development of a new field – service engineering – that will parallel industrial engineering in manufacturing. Industrial engineering as currently practised in services doesn't adequately address the psychological side of service, nor draw upon the extensive body of literature that exists in the behavioural sciences“ (Richard Chase). In the field of „service management“ there is a perceived need for more research relating in particular to aspects of human resource management and work organisation. In contrast, the state of the art in marketing is already regarded as extraordinarily advanced. Finally, with regard to the „internationalisation of the service economy“ the experts believe more research is required in order to meet the need for more knowledge about cultural factors affecting service supply and demand and with regard to expectations and perceptions of service quality.

As far as the need for future research is concerned, the interviewees believe that – alongside the three favourites referred to above – all applied research topics and mega trends are assuming growing significance. The following aspects in particular should be emphasised: More research needs to be undertaken on „service excellence“ in terms of the high quality of the processes involved in both service performance and service products. This is closely linked with the need to development „performance management systems“. In the context of such systems special significance attaches to the adequate measurement and evaluation of service-specific quality and performance parameters.

In the view of the experts, *technologies and services* represent a cross-sectional topic of enduring interest. Particular attention needs to be paid to information and communication technologies – facilitating service processes and creating e-services - as well as to service automation technologies. A need for more research is also identified with regard, in particular, to the role of technology in the provision, support, brokerage and sale of services. Research into service excellence in settings heavily dependent on technological support and the creation of high levels of service quality via the deployment of technology are also regarded as particularly relevant.

A further area of discussion – particularly in the USA – is the sub-field of service quality. While the exceptionally broad discussion engaged in to date² has mainly focused on the measurement of quality, experts now believe that this perspective needs to be extended in order to more easily identify the relationship between service quality and profitability, as well as between market share and customer retention. Research into the quality of service employment and work is also regarded as of equally enhanced significance. In this case a clear country bias is apparent. While experts in Europe and in the Asian-Pacific region (and particularly in Australia) are clearly aware of past research deficits and thus identify an urgent or very urgent need for research into this sub-topic, the quality of service employment and work elicits much less research interest in the USA.

² Cf. amongst others Grove, Fisk and John (2002): *The Future of Services Marketing, Forecasts from Ten Services Experts.*

2.4 Relevant growth sectors

The surveyed fields included business services, education services, financial services, information, media and telecommunications services, non-professional services, public services, industrial services, and social and health services.

The survey responses to selected growth sectors reveal that most experts believe that there is a clear increase in the need for research in the three fields of „business services“, „information services“ and „industrial services“.

Responses generally tally to the extent that „B2B“ services – in other words services provided by businesses for other businesses – are regarded as representing the most growth intensive field of service with the most relevance for the future. This is also associated with an urgent need for more research despite the acknowledged high level of knowledge already available in this area. The challenge now is to exploit the results of appropriate research activities to support higher-quality and more productive service provision taking particular account of the deployment of technology. Future research should, in the view of experts, also concentrate on the growth sector of services associated with the production of goods. Such research should in particular shed light on the process of change in which tertiarization evolves as companies shift from the (predominant) production of goods to the (predominant) provision of services, how these two perceptions differ, and in what way this process of change can be successfully supported. Respondents also believe that research should be invested in the increasing interpenetration and interaction between service and goods production.

The survey reveals that there is not only a perceived need for more research in these three front running topics but also in all other growth sectors – with the exception of financial services where a great deal of research has already been undertaken and where experts believe there will be less need for research in the future³. Specifically interesting aspects emphasized include: Research into service orientation and digitisation in the field of public services (i.e. e-government), a hot topic in the USA particularly; research into the quality aspects of the provision of education and health and social services. Special account needs to be taken of both the individual aspects of customers' perceptions of service quality and technological or – in the field of education services – the quality of service content in those areas in which this cannot be competently assessed by individual customers. Many experts would welcome more research work geared to the sustained measurement of outcomes to complement and extend current modes of output measurement.

Finally, the results on non-professional services in the relevant growth sectors are particularly striking. It is important, however, to preface these observations with a caveat on the translation and interpretation problems associated with this term. In the German-speaking world non-professional services – at least as we understand them – refer to services provided by skilled workers. Analogous to trade activities per-

³ The perceived relevance of research in the field of financial services in Germany is quite different however. Key terms in this area include, for example, innovation strategies, the metamorphosis of the branch system, and employment alternatives (cf. Bullinger et al. 2002: IT-Szenarien Finanzdienstleister 2002plus).

formed by skilled industrial workers, this refers to activities in the service economy which may be regarded as constituting skilled service provision and which thus encompass occupations pursued by those with a non-university education. Most of our Anglo-American interview partners tended to associate the admittedly clumsy translation „non-professional services“ with the low-qualified area of unskilled or semi-skilled „ancillary service workers“. It is also difficult to reach a common international understanding of this indubitably relevant aspect of work in the service economy owing to the fact that the dual professional training system which prevails in Germany engenders a degree of training formalisation and quality in the non-university sector which is not (yet) to be found in other countries.

Fortunately, it was possible to clarify these communication difficulties in face-to-face exchanges during the interviews themselves. The statements provided by the experts generated the following interesting results. While there is a broad array of differing views with regard to the need for future research in the field of non-professionalised services, this area nonetheless appears to be growing in significance. There is a clear country bias. While this area of research is regarded as of minor relevance by most respondents in the USA, experts in Europe and the Asian-Pacific region identify an urgent or very urgent need for research. This overall picture also corresponds with the assessment – referred to above – of the relevance of research into the quality of service employment and work, a field of research which is also regarded as less interesting by experts in the USA than by researchers based in Europe and Australia.

In addition to the qualitative responses relating to central topics of service research dealt with in the previous section, many of the expert interviews also encompassed discussion of broader aspects of the academic perception of „services“ as a research object. During these discussions it became clear that the international appraisal of the service research state of the art presented here coincides with a phase of shifting self-perception and (re)orientation on the part of the main actors in the central sub-disciplines of service research, and the most interesting of these trends are outlined in the following section.

2.5 Service research – paving the way for a paradigm shift?

Is the persistently dominant mindset in the academic world which continues to regard economic activity chiefly in terms of „manufacturing“, i.e., the production of industrial goods, and thus perceives research activity as coupled to this paradigm, still adequate in today's world? Surely the time has come – and particularly for those disciplines which take an ever-broadening approach to service research which goes beyond the latter's sub-disciplinary aspects – to seriously question our understanding of what we mean when we talk about „economic activity“? Have we not reached a stage at which academic efforts need to be concentrated on developing and establishing new conceptual and procedural assumptions for the analysis of the economy and society as a whole which reflect the current economic weight and the future potential of services? These questions address a central aspect of the current discussion of service research in the countries surveyed.

A significant number of experts believe that it is imperative that work begin immediately on the continuing development of the theoretical underpinning and foundations of „services“ as a research object. The key challenge in generating a new pattern of thought which focuses squarely on services is not to make do with a negative definition which merely distinguishes services from goods production. On the contrary, the decisive task must be to identify the quintessential nature of services, to „understand the logic of services“ both generally and in specific fields. In order to achieve this, theoretical and empirical research work is required which provides descriptions of a service perspective which are backed up by real-life examples.

Researchers in the USA, in particular, are currently engaged in theoretical and conceptual work which represents a departure from previous assumptions – firstly, by the IHIP model (Intangibility, Heterogeneity, Inseparability, Perishability⁴) and, secondly, by calls for the critical scrutiny – or more radically in some cases, the complete rejection – of the previously widely accepted dichotomy of services and goods. This dichotomous view of economic activity in terms of the production of goods and services should, it is argued, be replaced by a holistic perspective and integrative theories and models in which – in the most extreme view – services rather than goods are regarded as paramount and thus of prime significance.

However, what a future holistic „service perspective“ of this sort might look like is only now beginning to take on elementary shape in current discussion. In terms of a burgeoning theoretical description, a number of different views are becoming apparent. Some argue that services should be regarded as an equally-valid „element of business“ in the context of economic activity and not, as previously, as a separate and in most cases neglected category. This point of view asserts that whatever is being offered, it should be regarded as a combination of „things“ and „activities“ or as a „totality of intangibles and tangibles“. The core idea here is the creation of a „holistic consumption experience“.

Other experts take a more radical view and emphasize that a new service perspective is contingent on a new perception of economic activity itself. One aspect of this would be to regard the customer rather than the product as the starting point. The aim, it is argued, must be to see everything from a service angle and to focus on various forms of relationship. „It's all a relationship game“. Attention should not only be paid to the offering itself, but also to the structures, processes, resources, partners, etc. involved in delivering it.

There is broad consensus that „human aspects“ will play a central role in the creation of new, service-oriented patterns of thought. Services consist of „people work“ in which social-interactive components are of considerably greater importance than in the production of goods. Special attention must therefore be given to people as customers and employees in the service economy – as central business „assets“.

Summing up, it is clear that the theoretical underpinning of „services“ as a research object is currently a high priority topic in the current debate. One of the most eminent

⁴ Cf. amongst others Grove, Fisk and John (2002): *The Future of Services Marketing, Forecasts from Ten Services Experts*.

authorities in the field regards the apparent deficit in terms of a common theoretical understanding and a lack of fundamental models and systems as one of the key problems confronting the development and management of services. Most observers identify the challenge as accelerating the creation of generally applicable theory relating to both generic aspects of services and – given the breadth and heterogeneity of the field – of sub-theories and concepts applicable to both individual service sectors and aspects of these sectors. Intensive exchange – including at the international level – would be welcomed as a positive step towards the creation of a new service paradigm. In this context it would be interesting if the ideas, insights and experiences regarding the creation of a service perspective currently circulating in various research communities were, for example, to be presented, described in theoretical terms and illustrated with concrete examples from the service economy at a specialist conference.

However, rethinking the essence of what constitutes economic activity will not take place overnight – on the contrary, this process in turn can only take place as part of long-term perspective which also supersedes the current persistence of a (sub)disciplinary pigeonholing attitude. The most succinct responses suggest that, in contrast to work focusing on the production of goods, research and development work in the field of services will have to „accept the fact that we don't have so much control over it, at least from a scientific point of view“. Particularly with regard to human, social-interactive aspects – the importance of which should not be underestimated in the service economy – precise rules and parameters are unlikely ever to emerge and service research will always retain an element of unpredictability.

Whether and to what extent those involved in service research will manage to bring about a paradigm shift in terms of the way we regard economic activity or will be able to define the essence of the service research endeavour in more precise terms than they can today will become apparent in the years ahead. However, we may perhaps take comfort in the fact that the key actors are convinced of the major academic and practical benefits offered by such endeavours and that those involved are evidently keen to undertake further scientific investigations in this area.

2.6 Service research – on the threshold to a multidiscipline?

The international survey revealed that service research today has (still) not managed to establish itself as an autonomous academic discipline confident of its own institutional legitimacy as is the case, for example, with engineering or economic science. Fragmentation is a central feature of research activities in the field of services. Service research activities are often carried out in isolation from one another in the context of many other disciplines and sub-disciplines, and bearing this in mind a multidisciplinary approach promises to become a central factor in the success of research in this field fulfilling a dual function. Firstly, the creation of conscious links between research in various (sub)disciplines may help to reach a „critical mass“ on the academic agenda which the fragmented approach adopted to date has not been able to achieve, or at least not visibly. Secondly, given the relevance – demonstrated in the previous section – accruing from the formation of meta theory as a common point of

reference for future research in various (sub)disciplines, and the creation of a new service perspective, multidisciplinary research endeavours would be warmly welcomed by many of the interviewed experts.

It is important to emphasise both the broadly-shared view that it will no longer be possible to pack the knowledge of the future into traditionally neat „boxes“ and the conviction that it will only be possible to generate robust ideas in the future in the context of an international exchange of research work. In contrast to current scientific practise – particularly in the USA, but also in Europe – research needs to be organised around the object of research – in this case services – and not within the bounds of established academic tradition. In the future it will be important to become familiar with, adapt and use ideas from other fields in order to foster research and development progress. The aim must be to go a step beyond the simple exchange of ideas and thoughts and to develop cross-functional, concrete collaboration between researchers and research groups from various countries. Disciplines frequently cited as key (sub)disciplines in the drive for greater interdisciplinary collaboration include marketing, operations management and human resource management, as well as engineering and computer science. This perspective could, however, be extended even further and, in this sense, one expert commented that „every area of human knowledge has the potential to give insight into services“.

In the view of many experts, an important contribution towards promoting multidisciplinary activities in service research could be made by research promotion policies. The first steps in this direction appear to be being made in the USA in the form of the activities of the National Science Foundation involving initial projects of priority and a new programme of service research, both of which incorporate an explicitly multidisciplinary perspective („Exploratory Research on Engineering the Service Sector“ and „Service Enterprise Engineering“⁵). Summing up it is clear that – owing to its multifaceted nature – the field of service research is perhaps more than many other areas of academic endeavour not only a particularly suitable candidate for multidisciplinary strategies, it is in fact practically dependent upon such approaches if it is to continue to generate new insights. Researchers and those responsible for supporting institutional research both have a role to play in working towards greater multidisciplinary approaches and for ensuring that the recognition of the need for and benefits of co-operative research translates into concrete joint transfer projects and cross-functional transfers.

⁵ The SEE program is a new venture intended to focus researcher interest on the many opportunities for improving quality and productivity in service sector enterprises (...) the SEE vision is that the potential of engineering tools and problem solving methods to contribute in the service sector, including many originally developed for manufacturing enterprises, is far from being fully realized. The transfer of established approaches is likely to require novel reformulation, and wholly new modeling and analysis techniques are expected to evolve, thus stimulating both innovations in the service sector and research insights with impact across a broader domain. (<http://www.eng.nsf.gov/dmii/Message/EDS/SEE/see.htm>)

3. Activities of the EU in this field: The European Forum on Business Related Services

The Communication from the Commission „The competitiveness of business related services and their contribution to the performance of European enterprises” of December 2003 to the Council, the European parliament, the European economic and social committee and the committee of the regions, signals the Commission’s commitment to improve the framework conditions of Services in the EU. The discussions derived from this Communication about policy challenges should lead to more targeted actions, meeting the requirements of business related services. Business related services (BRS) account for about 55% of value added in the EU, but only account for about 13% of all business expenditure on R&D. This means that it will be difficult to reach the target of 3% of GDP to be devoted to R&D unless it is possible to connect more strongly with the needs of the service sectors. But we have to be aware that R&D expenditure seems not to be a reliable indicator of innovative capability in the service sector. Nor is the number of patents, as the results of new developments in services are not amenable to patent protection. A research programme should ensure that service companies (who themselves may not be undertaking technological R&D) are sufficiently closely associated with new technological developments at an early stage, so that they can act as early adopters, and use the new technologies as the basis for new service offerings.

What are Business Related Services:

Business Services (NACE 70–74) This group can be divided into two groups:

- 1) *Knowledge-Intensive Business Services*, which are professional services, such as IT-consulting, management consulting, R&D services, advertising and professional training. BRS refers to health services as well.
- 2) *Operational services* consisting of services such as industrial cleaning, security services and secretarial services.

Distributive Trade (NACE 50–52) This group consists of enterprises facilitating the distribution of goods and services to other sectors of the economy and to final consumers.

Network Services (NACE 40–41, 60–64): This composite group consists of electricity, gas and water supply, transport and communication services.

Financial Services (NACE 65-67): This group consists of enterprises offering intermediation of financial services such as banks and insurance companies.

The Commission therefore organised a European Forum on Business Related Services (BRS) with different working groups, composed of the Community institutions, Member states representatives, professional organisations, workers representations, research institutions, focussing on issues like human skills, productivity enhancing factors in services, knowledge and statistics, public-private partnership and regional policy in an enlarged Europe. In November 2004 the Forum got out a first „Interim Report of the Working Groups”. The aim was to provide the Forum with a consoli-

dated overview of the findings and recommendations of the working groups. Consecutively you find a summary of the Interim Report of the Working Groups.

3.1 Key characteristics and development trends in the service sector

One of the key features of the knowledge-based economy is the importance of interaction between suppliers and clients, and relations between enterprises, both within and also across sectors. The quality of any service depends on many factors. These include the qualifications of staff involved in its delivery, the process of interaction with the client, and of course the final result that is delivered. The intangible nature of services raises a large number of problems. Statistical treatment is hampered by the difficulty of quantifying the input and output measures. Company reports are virtually intangibles-free, which means that managers and investors have little reliable information about the assets which constitute the main drivers of value creation in the service economy. Nevertheless, some services are amenable to codification, embodiment in software packages, and therefore stockpiling for future use, rather than being merely consumed when the service function has been performed.

In the services sector, substantial rationalisation has been achieved by breaking down the process of service delivery into smaller components, which can then be provided by specialised companies. This „industrialisation” of service processes is greatly facilitated by ICT infrastructures that enable companies to access talented labour pools virtually anywhere in the world. The increased specialisation opens new opportunities for entrepreneurial companies, and also economies of scale, since highly specialised services could be more easily standardised and codified, and to some extent entirely delivered electronically. There is an observable trend towards „commoditisation” of service functions. In this context, a number of terms such as outsourcing, off-shoring, global sourcing, delocalisation etc. have come to be widely used, but often in a loosely defined way.

The borderline between manufacturing and services has become increasingly blurred and sometimes outdated. We have to focus on service activities, cause many manufacturers also provide services to their clients. They also perform internally service activities which in many cases they could procure externally, but lack the methodology to arrive at a „make or buy” decision in the way that they would do in the case of manufactured components. The interaction between manufacturing and services should be increasingly in focus. Many services activities - as well as services produced in-house by companies not classified as services companies - are relevant in this context. The most demanding challenges are to be found on the blurred edges. The increasing presence of embedded ICT in all types of products is a key driver of developments in manufacturing, as well as the demand from customers for delivery of a wide range of product related services. This illustrates the difficulties in capturing modern business realities in statistically relevant categories.

3.2 Dealing with the productivity gap

The recent development in overall productivity growth in the EU has caused concern and threatens the possibility of achieving the goals of the Lisbon strategy. Without competitive business-related services, it will not be possible to fulfil the Lisbon objective of the EU becoming the most competitive knowledge based economy in the world.

There appear to be three possible explanations for slow productivity growth in services, namely measurement problems, insufficient innovation, and rigid markets in Europe which hamper development.

Measurement problems arise due to the increased complexity of services being provided, and changes in the quality. However, adjusting the measurement to take account of quality changes will not necessarily increase productivity. There are also differing methodologies related to services prices measurement.

Labour is also an important input, but the labour volume has to be identified based on existing statistical information (such as hours worked, part-time, temporary and seasonal employment) which are only partially available. Furthermore, labour input and its impact on productivity has to be measured in qualitative and not only quantitative terms, i.e. taking account of skills and competencies. Customers also play a crucial role in productivity gains. This is partly the explanation for productivity growth in certain services, such as financial services, where transfer of part of the labour input involved to the client has reduced the labour input of the service provider (e.g. home-banking). This area is methodologically less developed, but an even more complex one to measure.

Differences between countries in terms of productivity cannot be solely attributed to differences in ICT use. However, even if the increased use of ICT – and especially e-business processes – is a major factor contributing to productivity gains, factors such as innovation, especially non-technological innovation, organisational changes, and competitive pressure play a major role.

From the enterprise perspective, issues such as continuous improvement, and the integration of ICT into the business processes are seen as key factors for better productivity. However, in the long term, productivity gains are viewed by businesses as being less important than indicators of sustainable competitiveness, such as client satisfaction and loyalty.

3.3 Addressing the challenge of global sourcing of services

Industrial restructuring has been part of the economic development in the EU in the last decades, especially influencing the manufacturing sector, and leading to a concern about a process of deindustrialisation in Europe. A more recent trend, which has caught high political attention, is the apparent increasing global sourcing of services. The concern has been based on numerous reports and studies, but no comprehen-

sive official statistical data covering the issue, giving a global picture, are currently available.

As the majority of services functions require a proximity to the market and clients, the services being internationally sourced in this initial round are mainly back-office functions, e.g. IT services or finance/accounting, enabled by the increased use of ICT and Internet connectivity by enterprises worldwide. But also functions focusing on customer contacts are being delocalised, e.g. by the use of intelligent telephone software since the late 1990's, especially call centre functions. A number of companies within business-related services, especially banks, telecoms operators, travel agents and IT companies have already moved parts of their services functions outside Europe.

The main driver of global sourcing is reduction of labour costs due to the large differences in wages paid for equivalent jobs between the EU and developing countries such as India and the Philippines. But it is important to underline that the benefits of increased quality of the services offered by the company such as the capability of offering services around the clock to customers is also an important driver of global sourcing.

A further motivation for international sourcing is the availability of a well educated workforce with the required skills in order to avoid possible scarcity of skills in the country of domiciliation, also in the foreseeable future. As a consequence, many sources report on increasing delocalisation of more knowledge-intensive jobs as IT engineers, researchers and analysts.

Global sourcing of services as a business model is being facilitated by the increased globalisation of services markets as a consequence of market deregulations and trade liberalisations, including the recent enlargement of the EU. Another significant facilitator is the technological development, especially within ICT, allowing companies to codify and transfer information and knowledge globally.

The impact of international sourcing of services functions is a sensitive and complex issue. The expected cost savings make the companies more competitive and also offer the companies new market opportunities and, via reengineering processes, foster organisational innovations again improving competitiveness and sustainable development implying new job creations. On the other hand, delocalisation of services inevitably causes immediate job losses in the European countries affected, challenging the capability of the European labour market to re-employ the persons who lost their jobs via new job opportunities based on increased competitiveness and growth of European enterprises and sufficient training opportunities to upgrade skills required for the new jobs being created.

3.4 Dealing with the lack of knowledge and information about the sector

Improvement of the knowledge and statistical coverage of the business-related services is important in order to better understand the real forces behind the development and competitiveness of the sector. This is an essential instrument for giving

guidance to decision making by business operators, policymakers and other stakeholders and for monitoring of progress of the Lisbon agenda. Policymaking can only be effective when it is based on reliable statistics about the structure and development of the sector. Following the structural shift in employment into the service sectors, there is now a severe imbalance between statistics on manufacturing and services.

As the business-related services are very heterogeneous, ranging from highly specialised, knowledge intensive activities such as computer services and engineering services to less skilled jobs in industrial cleaning, there is a demand for more detailed activity breakdowns of the basic structural data, enabling detailed analysis of the services sector equivalent to the possibilities for manufacturing.

Another example of the imbalanced statistical data collection is the collection of product information which currently only exists for manufactured goods (Prodcom). Product data and producer prices for the services sector are needed. The interrelations between productivity, quality and innovations are particular outstanding for further research projects.

3.5 The need for standards and quality assessment

European standards are an essential feature of the single market. For decades, they have enabled products to be manufactured and sold throughout the Union. In the field of information technology and communications, the role of standards is crucial. Now, they are increasingly being used to support a single market for services, to the benefit of both suppliers and users.

The number of voluntary European standards available for services is extremely low given the huge contribution the sector makes to the Union's economy. Superficially that may not be surprising, since it is clearly harder to set norms for activities without obvious physical characteristics than it is for manufactured goods.

Given the volume of trade in business-related services it is of paramount importance to avoid any misunderstanding between customer and provider. Standards help to achieve this and to give users confidence in the final result by setting a benchmark against which they can measure the quality of the service they are purchasing. They can act as a guarantee of the quality being supplied, reduce the time spent explaining what is on offer, and strengthen negotiating positions. Suppliers should be able to expand their markets as customers become more aware of what is available and demand is stimulated for new services and products.

Voluntary European standards give users a yardstick to compare products and prices enabling them to make a better choice, and to stimulate competition between suppliers. Breaking the process by which services are supplied into individual stages also gives providers a better insight into their business, helping to increase efficiency and reduce costs.

Companies are more willing to pay a higher price for a service which they perceive as being innovative or of higher quality. This is particularly true where in-house services are outsourced to an external service provider. In such cases companies are also willing to pay a premium for the transfer of business risk to another company. Innovation in service delivery can be seen as making an increment with respect to what is accepted as the current standard practice, state of the art, or norm.

In the absence of reliable means of assessing the current „standard” level of services, too much attention is given to the price factor. This is particularly the case in public procurement of services, which is almost exclusively driven by price.

The Commission has already given the European standards organisations a formal mandate to identify priority areas where standardisation would be most useful and to report back on the possibilities available by the end of 2004. Although this mandate explicitly excluded standards in support of e-Europe policies, future work on services standardisation should look closely at developments in the field of ICT standardisation. As well as providing possible case studies of effective standardisation, this area of work is important in developing the „digital delivery” of services which currently involve a high level of personal interaction.

3.6 The special role of innovation, skills, and research

It is not always easy to identify issues which are specific to companies that solely provide services, and separate these from issues that are common to manufacturers, who increasingly provide services in order to offer „solutions” to their customers, rather than simply selling a physical product.

Innovation in services is generally the result of a collective effort of management, sales, IT specialists and other staff within a company to respond to new market needs. It is diffused throughout a company, rather than concentrated in an R&D function, as is usually the case in companies that manufacture products. As a result, it is difficult to estimate the amount of effort that a company devotes to development of new and innovative services.

Many service companies are believed to invest substantially in innovation related activities, but for three reasons the situation is very intransparent. Firstly, the definitions of R&D and innovation, as set out in the OECD’s Frascati and Oslo manuals, are highly technology oriented. As a result, expenditure that companies might regard as „R&D-equivalent” remains unreported, and does not qualify the company for the R&D incentives available in some countries. Secondly, the study of innovation in the service sectors, and the investment in innovation made by service providers, is hampered by the technology bias of survey methods, such as the Community Innovation Survey (CIS). Thirdly, the overall level of systematic treatment of an organisation’s intellectual capital, and its intangible assets and investments, remain poor.

Innovation in services is only driven to a limited extent by technological advances. More important is the way that a company can respond to customer demand, and develop new service offerings. Demanding and sophisticated customers are one of

the major drivers of service innovation. One of the most important non-technological factors is organisational change.

Whilst services companies vary in their level of innovation, an increase in the innovative capacity of a given company will generally depend on the acquisition of new skills, or the upgrading of existing skills. This is also the case where service innovation depends on the introduction of new technology.

The skills and competencies of the European workforce are crucial for keeping or improving the competitiveness of European businesses. Thus, an increasing need for making the qualifications of the workforce transparent throughout the entire internal market is evident. Common principles for learning, as well as mutual recognition of qualifications, are key elements. There appears to be a strong demand from service companies for skill enhancement, but there is evidence at company level of a tendency to focus on new entrants rather than the long-term development of the workforce, e.g. life-long learning strategies, supported and promoted by Member States and the Commission. There was also a reported preference for in-house training, targeted at companies' specific needs.

When discussing services research, it is important to note that some research is primarily aimed at increasing the competitiveness and productivity of service companies, whilst some research is more focused on providing knowledge and statistics about the structure and economic performance of the sector. The latter type is, of course, also needed by the managers of service companies for planning purposes, but is principally used for policy development and economic analysis.

3.7 Dealing with the intangible nature of services

Development of the service sector depends heavily on making effective use of the intangible assets of enterprises, in particular their intellectual capital. These assets are frequently classified as human capital, structural capital and relationship capital. More effective management of these assets requires more systematic reporting, both at the level of the enterprise, and in the economy as a whole.

Many services can be provided without heavy capital investment in equipment, and without the cost of raw materials and transportation of physical goods. Allocation of the appropriate level of resources to service innovation requires, as a minimum, internal reporting of expenditure on many categories of intangibles, such as training, software, etc. The extent to which these expenditures result in the build-up of assets than can be used to generate future revenues is an issue not yet adequately addressed by the regulations on financial reporting.

Voluntary disclosure of intangible investment could provide greater confidence to investors and could also provide public authorities with a basis for introducing additional fiscal incentives (as is sometimes the case with R&D expenses being subject to tax relief).

An adequate level of reporting on intangibles could probably be achieved using data that is currently available within companies. There is already considerable voluntary disclosure of relevant information on intellectual capital and intangibles in various forms of extended corporate reporting, in addition to that which is found in the financial statement and annual report.

There are a number of reporting guidelines available, but companies need assistance in applying them. The good experience obtained in Denmark, where a large number of companies apply the Danish guidelines for reporting on intellectual capital, could be used in other Member States as an example of good practice.

Although a number of services can be 'materialised' and retained for later consumption (such as software), the outputs of service activities are intangible in nature and largely not capable of adequate protection by the existing intellectual property system. At present, service companies make little use of the available instruments of intellectual property protection (patents, copyright, etc.). Patent activity is, however, a reliable indicator of innovative capacity in R&D intensive sectors. The existing IPR instruments are not particularly favourable to protection of innovation in services.

There is also some evidence of increased R&D activity in the service sector (albeit from a very low base), and the efforts to increase overall R&D expenditure to 3% of GDP is likely to stimulate further growth. As a consequence, there is expected to be a demand for a suitable instrument of intellectual property protection which is more in line with the needs of the service sectors than those currently available.

4. Outlook: Challenges for Research & Development

„We know no more about services today than people knew about iron in the Iron Age.” (Evert Gummesson, 2000)

Nevertheless, appreciable progress has been made in the field of service research in the past few years. Despite a relatively modest public funding volume, it has been possible to reach a prominent position in certain fields since the early nineties – in some cases even taking the international lead. For example, with the subject of „Service Engineering” it has been possible to successfully occupy an interface between traditional service research and engineering sciences. The know-how of industrial production process engineering available in Europe and highly esteemed worldwide provides an optimum basis for taking the international opinion lead in the field of production-oriented service engineering. International experts acknowledge that this has already been achieved to a large extent with the research field of „Service Engineering”.

As far as the use of methods to develop services is concerned, an undifferentiated approach is most definitely inappropriate owing to the heterogeneous nature of the service sector. In order to be able to perform meaningful analyses and derive recommendations for action regarding method deployment, it is useful to identify characteristic service „types” and then take these as a basis for a more detailed examination. Although previous academic studies have already devised a set of so-called *typologies* for the service sector (e.g. Schmenner 1986; Kellog and Nie 1995; Buzacott 2000), hardly any of them are explicitly geared to service development. The typology approach evolved by Barth et al. (2000) represents an exception. It moreover offers the advantage that it was derived empirically from a survey of 282 companies and can hence claim a considerable degree of practical relevance.

Contact intensity and variety were revealed by a factorial analysis to be the critical typology attributes. Contact intensity can be seen as a yardstick of the interrelationships between employees and customers, whereas variety describes the total number of determined manifestations of the service product. These typology attributes allow four service types to be defined:

- § *Service Type A* is characterised by a low contact intensity and a low variety, making it particularly suitable for highly standardised service delivery,
- § *Service Type B* has a low contact intensity and a high variety, whereby from the developer's point of view the focus is on the systematic variant creation aspect,
- § *Service Type C* is typified by a high contact intensity and a low variety. It essentially consists of a single, clearly defined standard service, which may however be influenced by the customer within certain limits,
- § *Service Type D* is distinguished by a high contact intensity and a high variety, so that its performance typically necessitates a considerable amount of customising.

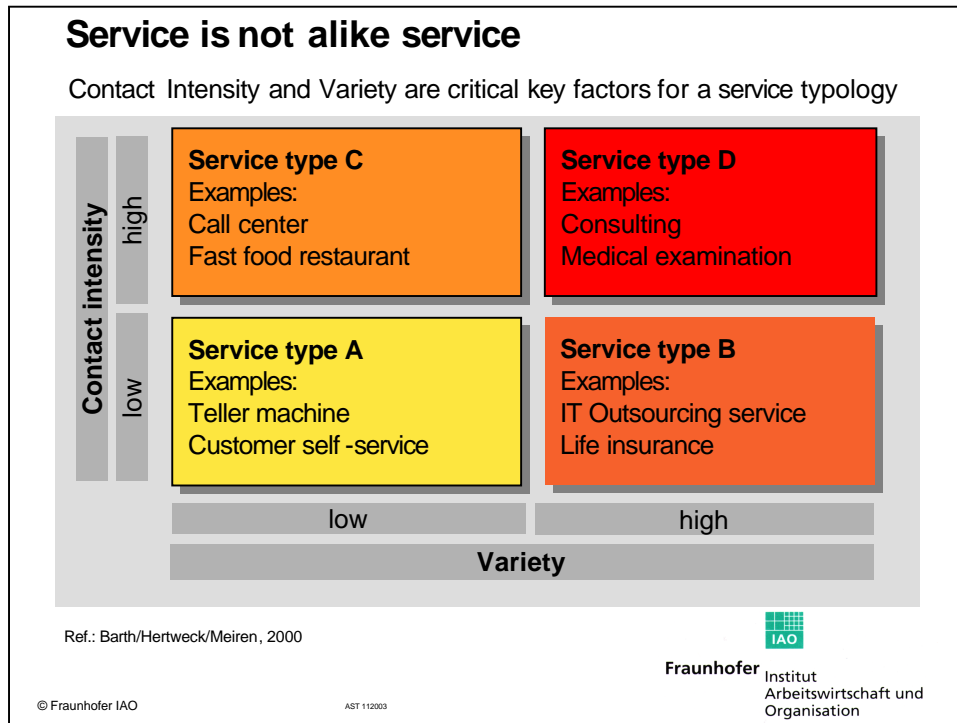


Fig. 2: Typology of Services

When drawing the balance of service research as a whole, it is obvious that application-related research results have been achieved in many fields which have strengthened the sustained innovation ability of enterprises and even complete service industries. In this connection, the development of innovative concepts and methods for service management, the strengthening of specific fields of growth of the service economy and the establishment of interplant service networks should be highlighted. Notwithstanding such appreciable results, there are fields of action where a specific need for research can be noted. This offers the opportunity to detect weak points at an early stage, analyse and turn them into strong points so that service research is enabled to reach an international leading position on the basis of the prior achievements.

There is no doubt that service research faces challenges in content. Last but not least this is due to the fact that the complexity and dynamics of services can only be penetrated analytically if research takes the courage to follow innovative approaches and wider perspectives. This includes critical questioning of previous (and meanwhile convenient) findings, definitions of terms and paradigms if they do not come up to the current requirements and developments any more. Hence, substantial challenges for research & development result from a modified or wider view of the object of research.

The 5th Service Conference of the German Federal Ministry of Education and Research (BMBF) 2004 provided a suitable platform for a daring look at the future perspective and to peg out some relevant fields of research. Four overall fields of activity can be identified, each of which entails further research issues. These are selected subjects of research which we – by discourse with our colleagues in the scientific

community and with our partners from the business sector – believe to be important starting points for research activities that we should address now in order to be able to keep pace in international competition today and tomorrow. The resulting tasks can be structured as follows:

1. Established tasks of service research need to be further developed whenever they appear in a different light on the background of current developments and findings.
2. The central drivers for technological and socio-structural change must be identified and understood with their interrelations with services if we do not only want to analyse current trends in retrospective but participate in their service-specific design.
3. Important research tasks for safeguarding the long-term competitiveness are also derive from a more intensive consideration of the relationship of tension between innovativeness, attractiveness and productivity of service activities.
4. It will only be possible to develop sustainable service solutions if we succeed in improving our ability to grasp, understand and shape the interactive processes of services.

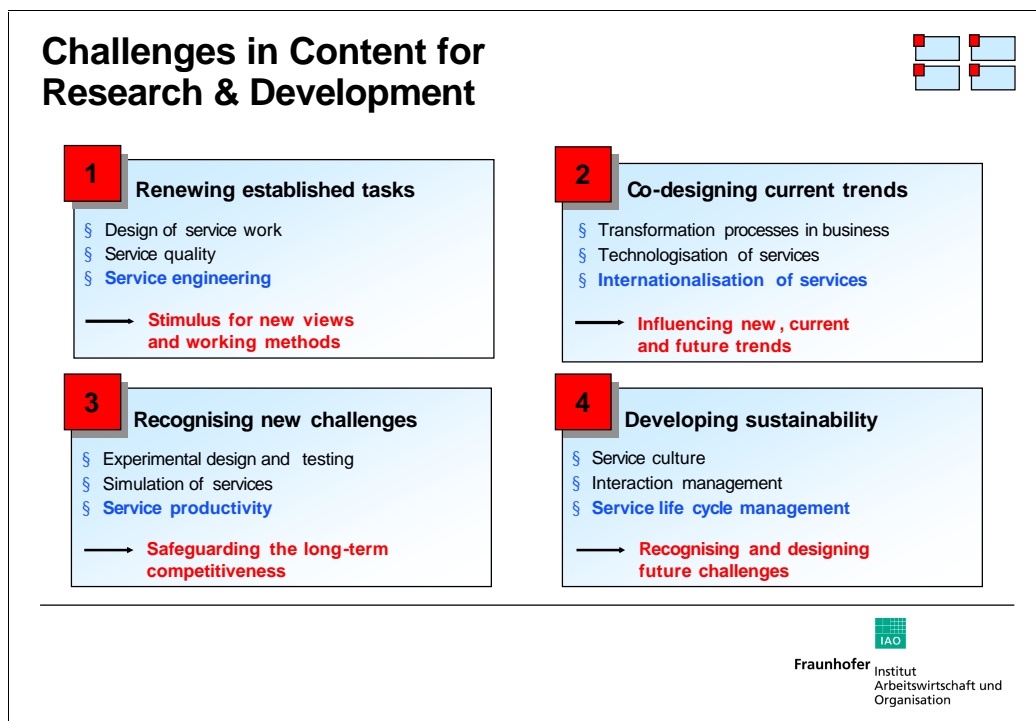


Fig. 3: Challenges in Content for Service Research

The individual fields of research are briefly outlined below. First we want to take a look at the future and then proceed towards the presence, discussing each of the fields with a specific subject of research.

4.1 Developing sustainability, with „Service Life Cycle Management”

With the field of activities of „Developing sustainability”, trends are addressed which are empirically relevant as early as today and require new design solutions, but are not yet sufficiently defined and structured. An instructive example for this is the subject of „Service Life Cycle Management”. In this field we have been observing for some time already that services – similar to products – are subject to a certain life cycle. The Service Life Cycle Management approach aims at developing new opportunities for potential yield beyond the service providing phase for those services which have already had their best time with regard to proceeds from customers by modifying and/or extending the spectrum of services.

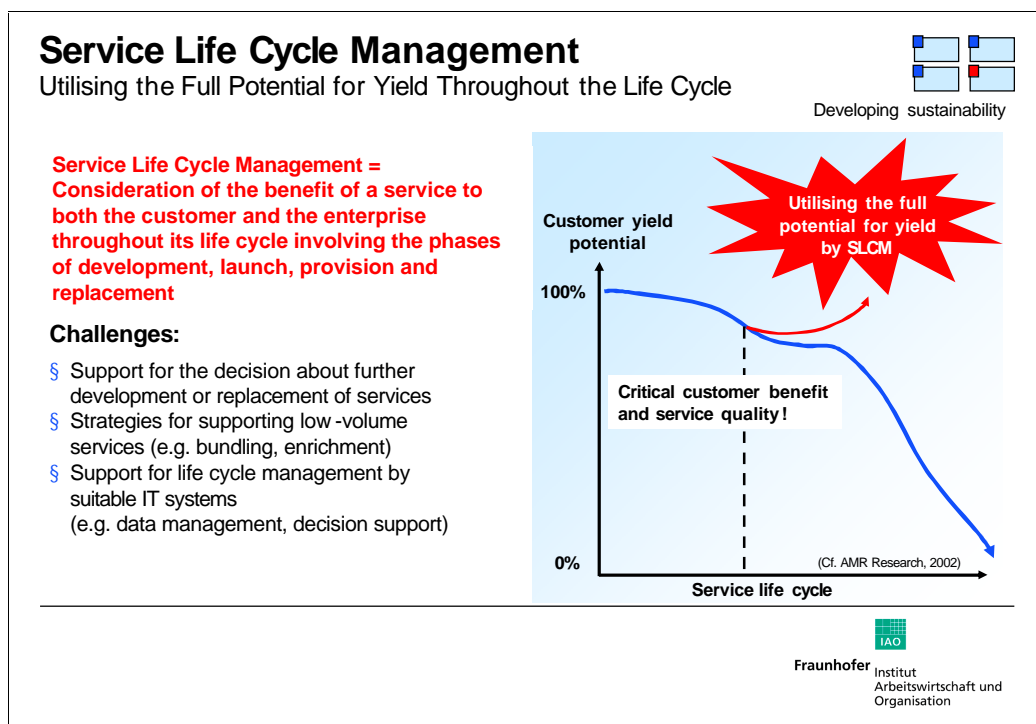


Fig. 4: Service Life Cycle Management

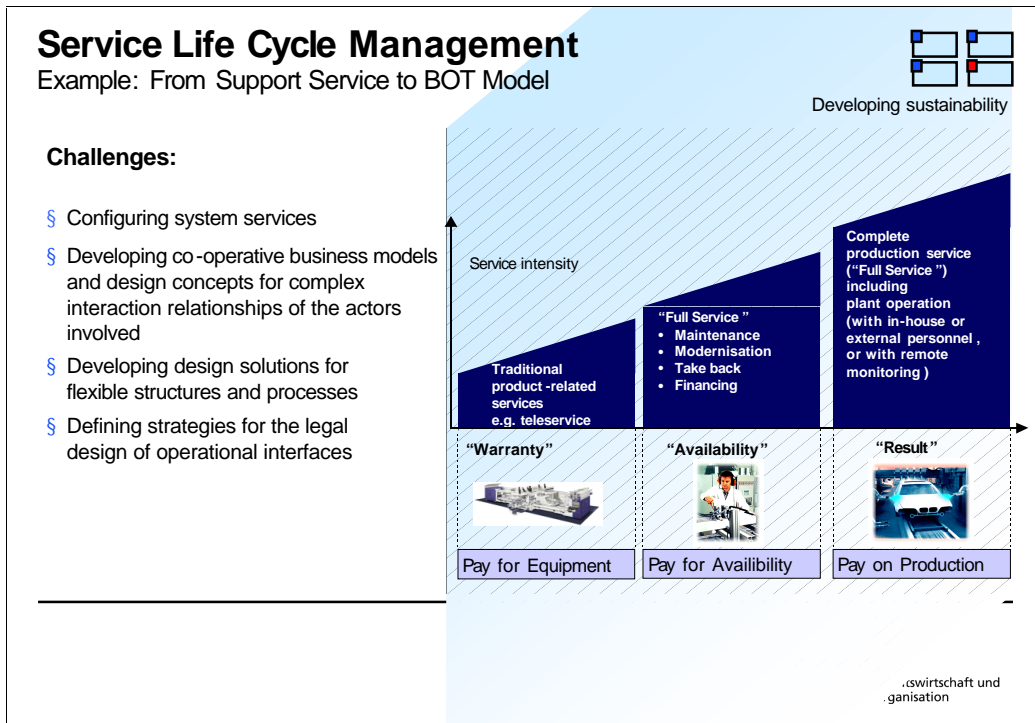


Fig. 5: Service Life Cycle Management

An essential characteristic of Service Life Cycle Management are new arrangements between providers and customers with respect to the design of the service portfolio. A holistic view of the life cycle of a service confronts enterprises with the challenge of reassessing the potential yield and the investment risks. The graphic (see fig. 4) shows that the life cycle of a service is characterised by decreasing benefit to the customer and thus a declining potential yield unless investments are made in service innovations. The art is to flatten the slope of the declining curve or even make it rise again by applying life cycle management concepts.

One business model which consistently follows the concept of service life cycle management is referred to as „BOT model” (Build-Operate-Transfer). It does not focus on the individual service but rather on integrated management from a system perspective. With BOT models, it is hardly possible to make a clear distinction between the shares of services and production elements since a complete production process is virtually managed as a system of services. The challenge for research is to develop categories, methods and tools that are suitable for analytically penetrating the interrelationship and interactivity between the actors involved in these complex service systems. Since the success of BOT models is strongly dependent on production technology issues as well as business economic calculations, they offer an ideal and at the same time typical field for consistent interdisciplinary service research.

4.2 Recognising new challenges, with „Service Productivity”

Even though the competitive and cost pressure in the service sector increases, there is little empirical research with regard to cause/effect relationships and productivity-related influence factors in service settings. This is one of the reasons why there is hardly any application-related engineering knowledge available at present for sustained improvement or increased productivity in the service sector.

However, we do know that the „logic” of service work is different from the one of production work. Of course, this has an influence on the issues of productivity and value addition of service activities. The fact that the customer is more or less a component in the service providing process is one of the prime reasons for the traditional input/output models for productivity mapping reaching their limits in the service sector. Just consider the consulting services of a lawyer or doctor. Obviously the quality and productivity of the service decisively depend on the customer’s collaboration, i.e. on his active contribution to service providing.

How can the input and/or output of a service be determined and made measurable? For example, how can you measure the productivity of a nurse? By the shortest time for a patient to check out of hospital? By the shortest time for him to check in again? Or is it about the sustained effect of provident care? These questions suggest that the quality of a service as perceived by the customer is a decisive factor for assessing the productivity. Eventually the customer’s readiness to take on parts of the service process himself has also an effect on the overall productivity (e.g. self-service settings).

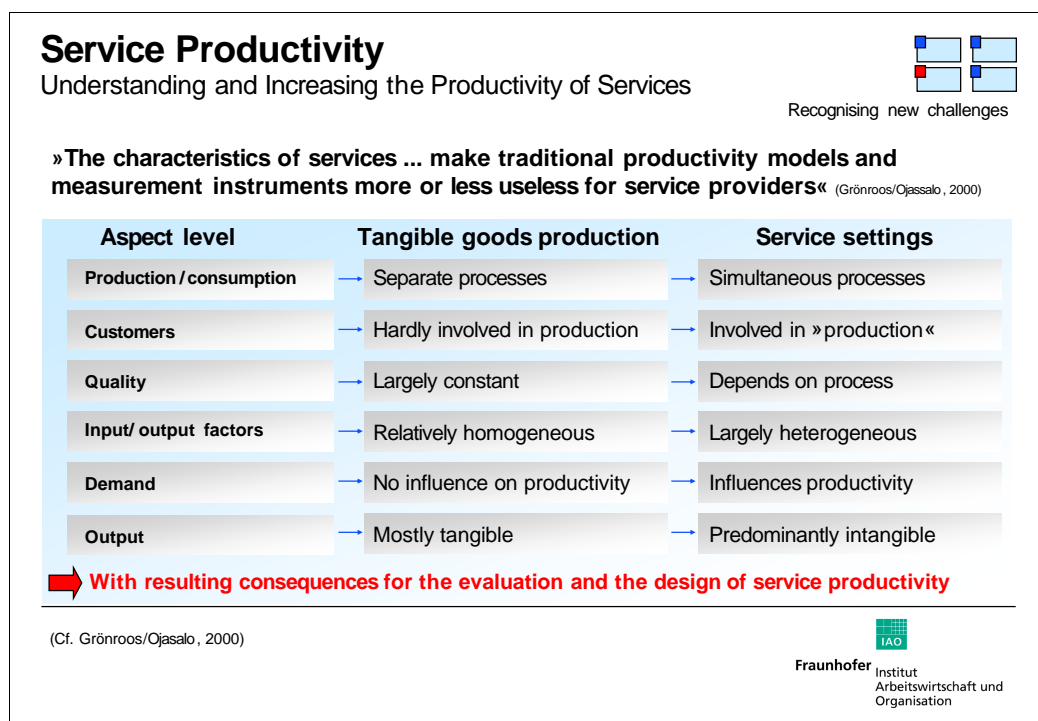


Fig. 6: Service Productivity

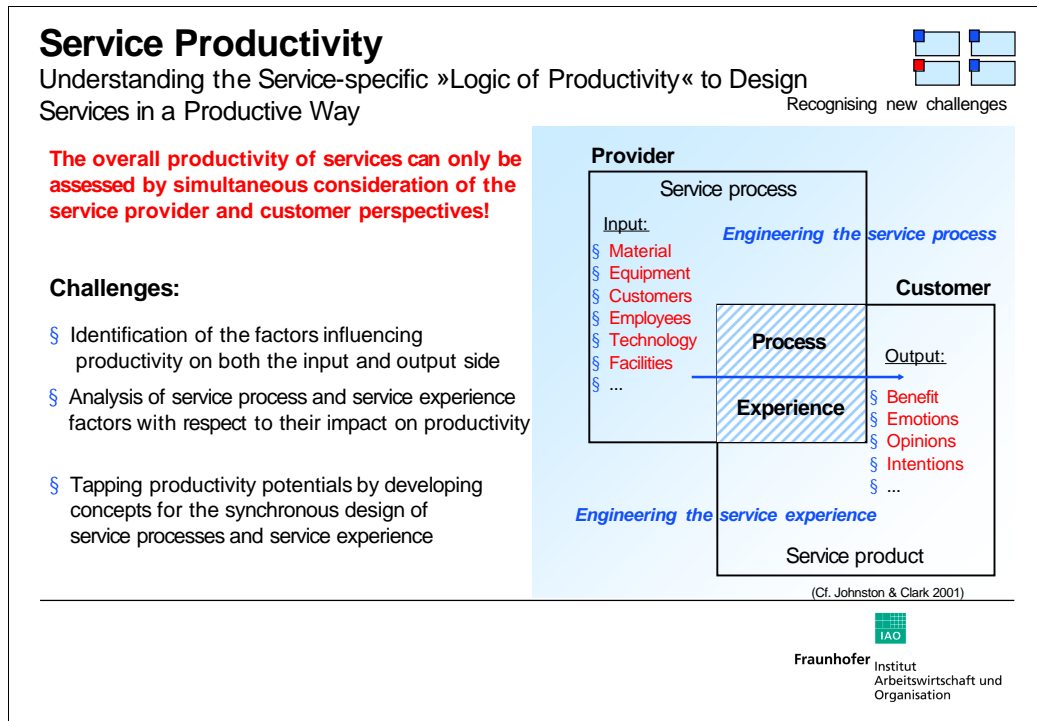


Fig. 7: Service Productivity

The scientific challenge is to understand the interrelations between the service „event“ as perceived by the customer (and by employees) and the design of productive working processes. This is the basis for the subsequent development of design concepts contributing to a substantial improvement of the productivity of services. It will only be possible to achieve a sustained increase in productivity if such concepts take the specific characteristics of service activities into due consideration and can be customised to the work requirements for each specific situation.

4.3 Co-designing current trends, with „Internationalisation of Services“

It has become a matter of common knowledge that Germany is world champion in product export. Less frequently it is reported that Germany has a negative balance of trade in the service sector in international comparison. This means that more services are currently purchased abroad than can be exported (see fig. 8).

As far as we know today, the place of manufacture and assembly of investment and consumer goods will certainly be less decisive for their production in the future. In this regard, Germany would not be able to stand its ground in many areas in international competition anyway because of its high labour costs. Rather, the decisive factor will be the system leadership for the development, manufacture and marketing of such goods. We will therefore have to ask ourselves in the future if we cannot profitably export our knowledge about the design of working and organisational processes to a greater extent. These are not only areas where we have innovative competitive ad-

vantages but also sectors providing the high-quality jobs which we want to keep or even extend in Germany.

As we have already seen with the BOT model example above, the knowledge about complex and internationally active value-addition networks – the structures and processes of which follow the logic of services to a large extent – plays a central role. In this regard, the knowledge of how services and service processes can be customised quickly and efficiently to different national needs is increasingly in demand.

The need for research and action calls for the development of business strategies and options for the internationalisation of services. Knowledge about the standardisation potential of services plays an especially important role in an international context, in order to keep the transaction costs low when making the service available on an international level. The internationalisation of services also requires knowledge about the influence and impact of cultural factors on service offerings, the demand for and quality of services. Finally, there are quite a few obstacles blocking the international trade with services on a wide scale. More research is needed in this regard to advance the establishment of international value-addition co-operations and strengthen or improve positions attained.

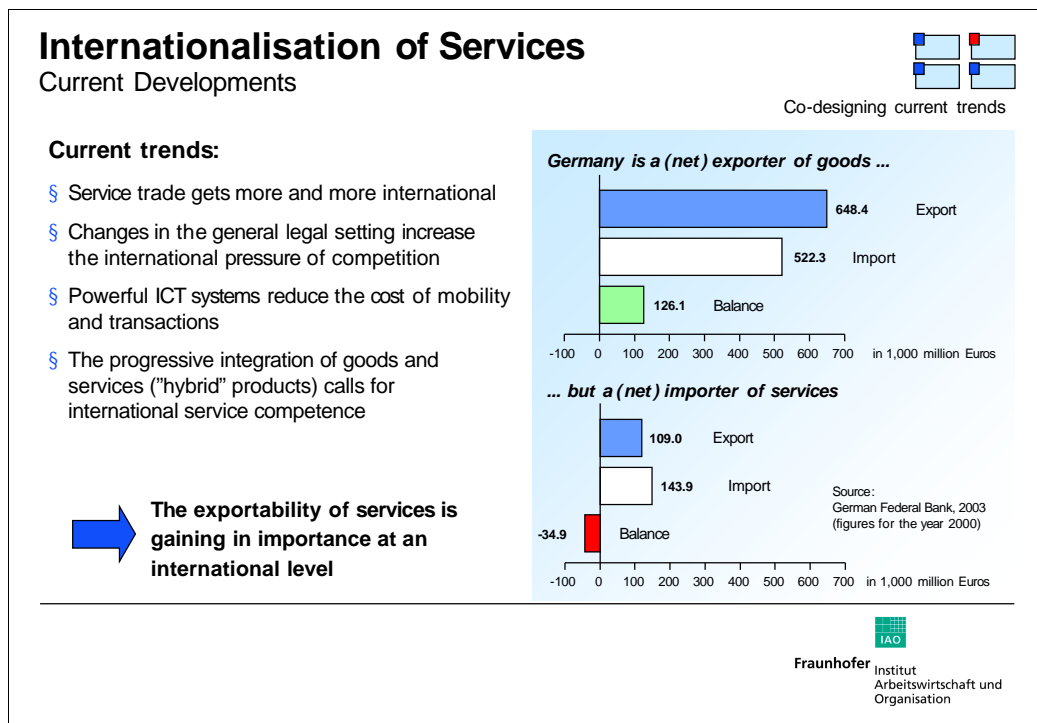


Fig. 8: Internationalisation of Services

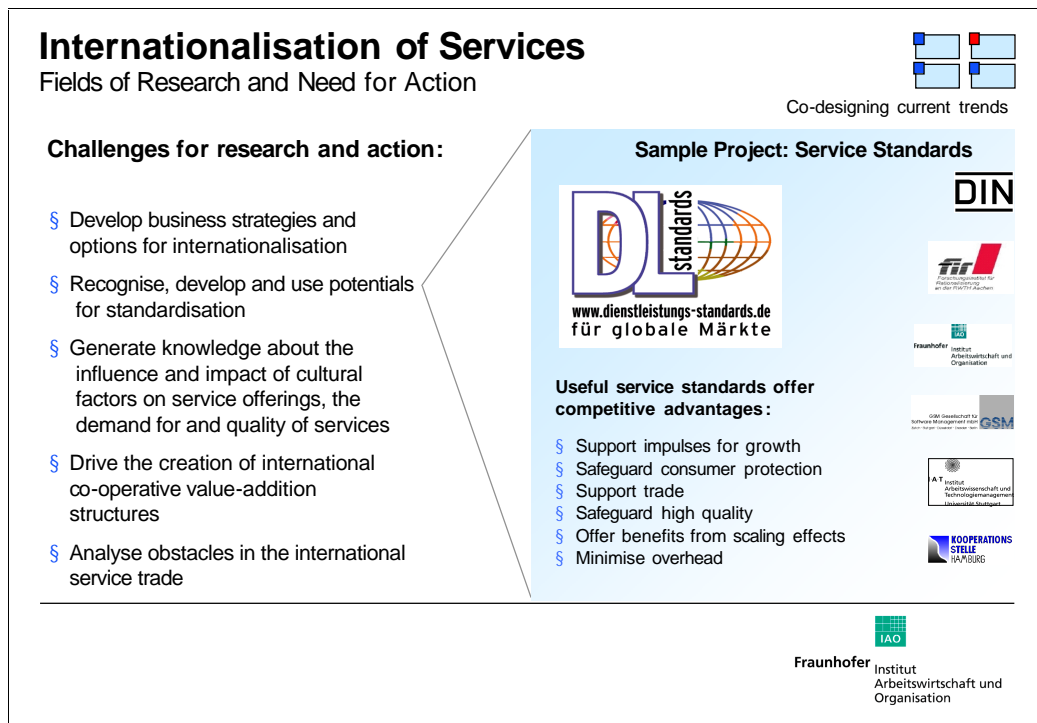


Fig. 9: Internationalisation of Services

4.4 Renewing established tasks, with „Service Engineering”

In addition to the future-relevant tasks, there are fields of issues which have been familiar to us for some time but now appear in a different light on the background of current knowledge we were able to acquire about services in the meantime. Whenever this is the case, we need to address these tasks in order to renew them.

One of these subject fields which are both familiar and new is the field of „Service Engineering”. Although it was possible to achieve substantial progress in the field of systematic service engineering with the research field of „Service Engineering”, we are far from having investigated all aspects completely. For example, we do not know a lot about how aesthetics influence the customer interaction and also the design of working processes. The research subject of „Service Aesthetics” addresses exactly these effects of services on customers and employees, investigating subjective factors (personality, demographic aspects, expectations, motivation, etc.) and objective influence factors (e.g. interior design, climate, noise level, etc.). At present, especially the interrelations between subjective and objective influence factors are largely unknown.

Successful examples from the international environment, e.g. the Mayo Clinic in the U.S.A., show that systematic consideration of aesthetic issues in the design of services can boost innovation and produce competitive advantages. In the case of the Mayo Clinic, the design of the physical environment of the clinic has a special significance – last but not least because patients usually associate the appearance of a hospital (e.g. cleanliness, attitude of the personnel) directly with the quality of care.

The overall design of this hospital rather resembles a first-class hotel setting with a marked attentiveness for details. It goes without saying that the actual medical service must also have a good quality level.

Service Engineering

More topical than ever ...

Renewing established tasks

»There is no lack of ideas for new services in business. Rather, there is a lack of procedures describing how to translate these ideas directly into successful service products.«
(Rohit Ramaswamy)

Current challenges:

- § Increasing the dynamics of innovation by service prototyping
- § Designing the effect on the customer by service aesthetics

To what extent are the development processes for services standardised in your business?

Standardization Level	Less successful enterprises (%)	Successful enterprises (%)
Not standardised	48%	28%
Hardly standardised	28%	35%
Standardised, but not in writing	9%	13%
Standardised and put into writing	15%	24%

Source: IAO study, 2003

Fraunhofer Institut Arbeitswirtschaft und Organisation

Service Engineering

»Aesthetics = The Power Creating Emotions «

Renewing established tasks

Service aesthetics:

A special field of design for service engineering relates to the *aesthetic effects* of services on customers and employees.

Objective influence factors:

- § Interior design and furnishing
- § Sensory elements
- § Symbolic elements

Subjective influence factors:

- § Customer behaviour
- § Employee behaviour
- § Cultural context

Example: Mayo Clinic (U.S.A.)

- § Open rooms with natural light
- § Therapeutic colour design
- § Rest rooms and retreat areas
- § Water fountains, piano music, etc.

- § Demanding clients
- § Care is the highest maxim
- § Personal attendance
- § Teamwork among doctors

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Fig. 10/11: Service Engineering

There is much evidence that the customers' expectations with regard to high-quality service offerings will continue to rise. At the same time we observe that the custom-

ers' wishes tend to individualise; it is more and more difficult for high-quality service providers to tune the services offered to the customers' specific needs. In this context, service research is challenged to deal with the subject of service engineering from a more aesthetic and cognitive view. This will be the basis for developing concepts that are suitable for minimising or even closing any „gaps“ occurring between the service provider and customer sides.

The research fields outlined above demonstrate that there are still fundamental questions waiting to be answered by an international oriented service research. This is mainly caused by the fact that services draw their social and economical benefits from breaking with well known traditions, creating new needs and giving answers to social transformation processes. One can state that services are a central driving force and a result of social innovation processes at the same time. A more intensive analysis of the principles and cohesive actions of this rapid changing research field is necessary, if these processes should not only to be analysed retrospectively but shaped actively.

Hence, an integrated European service research has to present itself as a provider of international (research) services. This will require the setup of international research networks which work on relevant questions in close cooperation with practitioners and business companies. In the USA such a research infrastructure has been existing for a long time. So it is not surprising that US service researchers dominate certain research fields. It is important to stress that due to different political and cultural conditions the concepts developed in the USA can hardly be transferred to the European sector. A European service research which aims to strengthen European competitiveness has to develop analytical approaches, methods and instruments which are systematically adjusted to the European characteristics.

5. Needs for Action for Strengthening the Service Research

Four essential research fields have been outlined above for the service research community, reaching from the future back to the immediate presence. The challenges are great, but so are the associated opportunities. So far, however, the future-oriented success stories are predominantly found overseas. For example, the Bank of America was able to successfully implement service innovations by a systematic process of service engineering and an innovative approach for testing new service products and processes. The customer consulting service was subjected to a process of realistic modelling, prototype evaluation and optimisation in several iteration loops.

We can learn from such examples without having to copy them. Copying appears little promising alone because of the cultural environment, which plays an important role for successful innovations in the service sector. In order to foster service innovation, firm-internal conditions are playing a crucial role. A culture for service innovation and of course also the organisational conditions in companies for service innovation have to be fostered.

Still it should be our objective to benefit from market opportunities more directly than before by service-driven innovations. In order to achieve this in a better way in the future, service research will have to increase its efforts to translate the acquired research findings into systemic design concepts without losing sight of future developments. Furthermore, it will also be necessary to cope with structural challenges aiming at an institutional strengthening of the service research; these can be summarised in five points (see fig. 12):

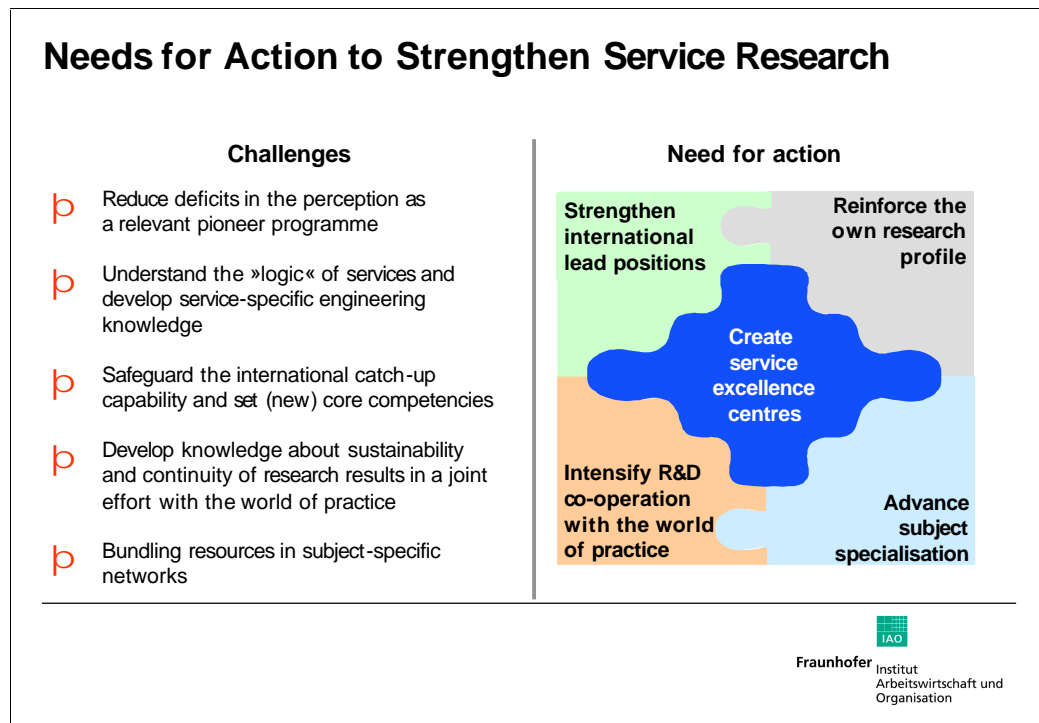


Fig. 12: Needs for Action for Strengthening the Service Research

In view of the high relevance of services for the EU economy, research and its supporters face the challenge of developing an independent research profile, communicating this more intensively and achieving widespread acceptance for it. Service research needs to be attached adequate importance in the perception of the public.

We do not have sufficient knowledge yet about the constitutive and designable elements in service processes and we have to consider differentiated development of the three main forms of services – personal (such as care services), operational (manual such as cleaning) and knowledge intensive services. They may have different developments concerning productivity, growth, internationalisation etc.

Especially the interactive sphere of the human-human interface has been a black box to date. Starting points for analytically grasping this black box can only result from further specialisation of subjects. Similar to other fields of research, deeper penetration of various fields of application is required in order to develop solutions that are suitable for practical use.

It has already been possible to establish international catch-up capability for certain subjects (e.g. service quality, service marketing). Furthermore it becomes apparent that a core competence – the subject of Service Engineering, knowing that there is a similar field called service operations – has been anchored at an international level. There is also a good chance for placing our knowledge about the design of service work. It is now necessary to consistently make use of all these opportunities.

The potential for innovation in the service economy is far from being exhausted. On the one hand, it is necessary to raise the so far limited readiness/tradition of service enterprises for systematic research & development and for participating in collaborative development projects with science. On the other hand, science should also make more efforts to ensure the sustained implementation of its research findings in close co-operation with partners in practice.

All in all, the groups of actors in the service economy and in research present a rather fragmented image. In many cases there is an insufficient „critical mass” to be able to advance and explore the subjects more deeply. The establishment of Service Excellence Centres could be one way of accelerating the dynamics of innovation and strengthening the international competitiveness of service research.

It is therefore obvious that a successful future with innovative services relies on the interaction of very different actors. In addition to exploring new paths between science and practice and taking a more international orientation in science, we need to work on achieving a more widespread awareness of the significance and the cause/effect relationships of services at an institutional level and – last but not least – in our minds.

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