

Foreword



Rui Soucasaux Sousa

Welcome to the inaugural issue of **SLab** Research Digest. The goal of this publication is to share with the managerial community the most recent scientific developments in the field of Service Management. Increasingly, managers face “information overload” resulting from the wealth of research articles and reports that come out every week, many of which have limited managerial relevance. As part of our ongoing research we regularly analyze emerging and credible scientific knowledge produced internationally in Service Management. The Research Digest is a selection of the most recent themes and articles which we consider deserve reading by managers.

The Research Digest is organized in several sections. The Tutorial section addresses an established theme in Service Management (rather than cutting edge research) and intends to convey efficiently the core ideas of

the topic to a reader who may be unfamiliar with it. For the first edition, we selected for the Tutorial the basic question of what is a Service. This piece explains why services are different. The implication of these differences is that we need specific approaches for managing services, which is why research centers focused on services, like **SLab**, can add value. The Foresights section includes expert views from **SLab** researchers on key topics on the managerial agenda, often related to **SLab**'s own research. The Reviews section includes synopses of articles that we hope managers, time pressed as they may be, will benefit from reading.

This inaugural issue is very much based on **SLab**'s researchers' views. In future editions we would like to engage our practitioner audience, and in particular our partners, in contributing with their own views. Please contact us for more details on how to become a partner of **SLab**.

Enjoy!

Rui Soucasaux Sousa
SLab Director

SLab is a cutting-edge research center of Universidade Católica Portuguesa with the goal of producing and transferring knowledge that can contribute to the increase of the productivity, quality and innovation of service-related industries or tasks.

In This Issue

What are services?	2
The Changing Role of Stores in Multichannel Retailing	4
Challenges in Benchmarking	6
SLab Reviews	8
News & Events	12

SLab Tutorial

What are services?

Carolina Horta

Research Assistant

Over the past 30 years we have witnessed a substantial growth of the services economy. Today, services represent the fastest growing sector of the global economy and account for two thirds of global output, one third of global employment and nearly 20% of global trade. In developed countries, the percentage of Gross Domestic Product (GDP) generated by services can reach as high as 70%, and even countries that have historically focused on manufacturing are experiencing rapid service growth. In 2013, and for the first time since at least 1976, the contribution from services to China's GDP was higher than the industrial sector, with a 46% to 44% portion. Services play a key role in today's economy and can be expected to continue to do so in the future.

But what are services? And what are the managerial and operational implications that are unique to services?

Over the years researchers have contributed to the literature with several definitions for services. Some have focused on what services are not, others on what distinguishes them from products and others on their characteristics. The most commonly accepted definition is the one by Sampson and Froehle (2006) and argues that the relevant distinction to be made is between service and non-service processes, rather than between services and products as outputs. According to this

definition, a service production process is one that relies significantly on customer inputs. Interestingly, this definition means that we can find service processes in some manufacturing environments, for example, in situations in which the customers provide relevant inputs for production, such as product specifications or components. The presence of the customer in the process introduces variability into the system and is the root cause of the particular issues and challenges of services management.

“a service production process is one that relies significantly on customer inputs”

Categorizing variability in service processes

Customers may introduce variability in five different forms: arrival variability, request variability, capability variability, effort variability and subjective preference variability (Frei, 2006).

Consider the example of a restaurant (service process) versus a factory that produces canned soup for wholesale distribution (non-service process) to illustrate the different types of customer-introduced variability and the additional challenges they entail.

Customers show up at the restaurant at their own schedule and often at times not necessarily convenient for the restaurant manager, e.g., when demand exceeds capacity. On the other hand, the soup manufacturing company can level production across

a defined forecasting period and use inventory to cope with demand fluctuations.

With regard to the offer, the soup factory produces a set of predefined standardized soups, whereas food production at the restaurant is contingent upon customer orders and specifications. Even though part of the food can be prepared prior to the customer being present in the system, final production of food is dependent upon inputs from the customers on what they would like to eat and their food preparation preferences. Thus, in service processes the customer also acts as a supplier of inputs to the production process, i.e. prior to being recipients of process outputs, customers are providers of process inputs. In the soup factory, production is not dependent upon inputs from individual customers.

At the restaurant, the service provider also has to take into consideration other types of variability, such as the fact that each customer has its own capabilities and applies different efforts while performing their role in the service interaction. For instance, if a customer doesn't take the time to carefully place his/her order or has difficulty in expressing their preferences it is likely he/she will not be happy with the service outcome.

Moreover, different customers have different opinions on what constitutes a good service experience. Some value a more personalized service, e.g. having a waiter that remembers their name and preferences and constantly makes sure everything is okay, while others favour a not so intimate relation preferring to quietly enjoy their food and company.

Managing variability in service processes

Each type of variability identified in the service process has an impact on service efficiency, quality and cost and can either be reduced or accommodated. Generally, companies that emphasize the service experience tend to adopt accommodation strategies, with obvious impact on operating costs, while those that emphasize operational efficiency, tend to adopt reduction strategies which may impact service perceived quality.

Although this decision traditionally implies a trade-off between the cost to serve and the quality of the service rendered, in some specific contexts (e.g., market niches) service managers may have the possibility to adopt strategies that compromise neither the service experience nor their operating environments.

Taking once more the example of the restaurant, accommodating customer variability could mean the investment in more experienced, well-trained and prepared waiters to quickly grasp the mind-set of each customer and adjust their behaviour accordingly - accommodate subjective preference variability - and also having flexible operations in the kitchen and experienced chefs to accommodate special orders - accommodate variability of requests.

The restaurant menu is a classic example of a reduction strategy for request variability. If a menu has fewer options, the number of potential orders is limited, thus making it possible for a restaurant to offer meals of consistent quality at a reasonable cost. However, this strategy could compromise customers' perception of service quality, as

clients value the possibility to customize the offer to their own preferences.

Customers that judge the quality of their experience by how much of the variability they introduce is accommodated are often willing to pay more for the added experience and flexibility of operations, while price-conscious customers are prepared to trade off service experience for low prices.

An alternative strategy to tackle variability could be to make the customer take a more active role on the service production process. A self-service dining experience is effective in managing high arrival variability, and allows the customer to customize the meal to their taste (accommodating request and subjective preference variability). By serving themselves customers can also adapt the service process to their capabilities and effort.

This strategy will enable accommodating customer variability without increasing operational costs, but it is only beneficial if the customer feels compensated about doing the work they think the company should be doing, whether through lower prices, greater customization or any other benefits.

This brief example illustrates how managing the variability customers introduce in service processes is one of the major challenges in services. While many manufacturers like the canned soup factory have virtually complete control over the cost and quality of their production inputs, service managers need to manage the unpredictability of having their customers provide key inputs to the production process. Moreover, in

service processes the decision to minimize variability is not as straightforward as in non-service processes, as customers often judge the quality of their experience by how much of the variability they introduce is accommodated. Thus, deciding on how to manage customer-introduced variability entails a deep understanding of the true drivers of customer behavior.

References:

- Frei, F. X. (2006). "Breaking the Trade-off between Efficiency and Service", *Harvard Business Review*, November, pp. 93-101.
- Sampson, S. E., Froehle, C. M. (2006), "Foundations and Implications of a Proposed Unified Services Theory", *Production and Operations Management*, Vol. 15, No. 2, Summer 2006, pp. 329-343.

MSc
SERVICE MANAGEMENT

www.feg.porto.ucp.pt/en



The Masters in Service Management aims to equip professionals with the right skills for the new service-intensive economies.

SLab Foresights

SLab's expert views on service themes

The Changing Role of Stores in Multichannel Retailing

Rui Soucasaux Sousa
SLab Director

Retailers increasingly offer customers multiple channels (e.g., physical stores, internet, phone, etc.) to support their purchase journey (information search, order placement, delivery and after-sales). Several studies have shown that multichannel customers tend to purchase more and are more loyal than single channel customers.

“multichannel customers tend to purchase more and are more loyal than single channel customers”

As multichannel retailing grows, the role played by physical stores is gradually changing. We briefly discuss three significant trends taking place:

1. Moving from transactions to experiences. This trend is relevant for the sale of some types of “experience products”, such as technology, fashion or complex products. For these products, customers often value feeling and touching the products, as well as to get personal advice from sales consultants. For example, a customer may wish to have a physical feel for the readability of a computer screen or how a particular smartphone fits his/her hand. A customer may also want expert advice on the fit

between the technical specifications of the products and the use he/she intends to give to them. For these latter aspects, stores are often the preferred channel. Therefore, in a multichannel context in which customers are increasingly receptive to buying online, it is through this dimension that stores can differentiate and add value relative to other channels, such as the internet. The goal is not to directly compete with the internet channel, but rather to complement the internet by offering additional value and choice to customers. It may well be that customers start their purchase journey on the internet where they can more efficiently access technical specifications, make automated product comparisons and so on. The issue for stores is how they can add value beyond online interactions and how this changes the role they play.

Clearly, in order to add value relative to other channels, stores need to devote a lot more effort to the product and customer experience dimension. This increased focus on experience has implications for store design and management. For example, stores should be designed with careful esthetics (e.g., the Apple stores), be staffed with knowledgeable employees, and place more effort in training staff on providing high-quality personal interactions with customers. A store's role in supporting transactions and immediate product fulfilment may become less important. For some products (e.g., large/heavy products that need to be delivered to customer homes even when bought in stores), immediate product fulfilment may not

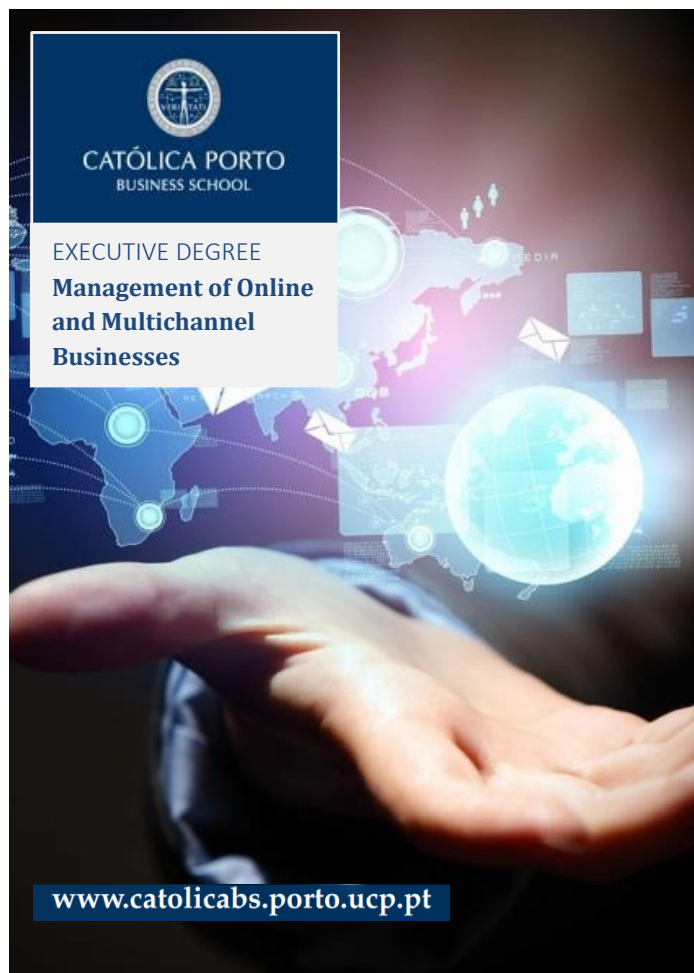
be key. Many customers may be perfectly happy trying out a “representative” product in a store and then order the exact product they wish (even a customized product) through the sales assistant for home delivery or even be directed to the firm's website to place an order. For an enlightened multichannel retailer, it does not matter through which channel the customer places the order, what matters in the end is winning the customer business. This means that stores may not need to hold high inventories of many SKUs, and can re-direct the freed-up space to create good product and customer experiences.


2. Infusion of technology. Stores are not only capitalizing on their unique features vs the web (see above point), but they are also building value propositions that try to emulate the web, by using technology. For example, through smartphone-tracking technology firms may monitor customer shopping behavior inside a store, very much like what they would be able to do as a customer navigates a web site. Accordingly, through technology (e.g., a smartphone app or an in-store kiosk), stores can offer customers ways to access reviews and comparisons across products stored on the shelves or even provide customers with suggestions in real-time as they walk through the store.

3. Stores as fulfilment centers for online sales. Multichannel retailers are increasingly employing physical stores as collection points that customers can use to pick-up as well as to return goods bought online. More than 50% of Walmart's online

sales are picked up by customers in stores. This arrangement can be attractive for the retailers (who avoid the complexity and cost of last mile deliveries) as well as to a significant number of customers (who avoid the cost of online delivery, as well as the need to be at home to receive specific types of products, such as groceries). This implies that the store operations, layouts and signage need to be adapted to accommodate this additional service.

In summary, the advent of multi-channel retailing is reshaping the role played by stores. Interestingly, these trends are making channels come closer in terms of their customer value propositions - not only the internet is increasingly able to emulate physical experiences (e.g., through augmented reality), but also stores are increasingly able to emulate online experiences (e.g., through the infusion of technology).




CATÓLICA PORTO
BUSINESS SCHOOL

EXECUTIVE DEGREE
**Management of Online
and Multichannel
Businesses**

www.catolicabs.porto.ucp.pt

Challenges in Benchmarking

Conceição Portela

SLab Vice-Director

In a period of economic turbulence, fierce competition, and demanding customers, the pressures to optimize processes, to improve efficiency and effectiveness, and to reduce costs are constant in every company that wishes to survive and prosper. This has been typically true in for-profit companies, but in the last years non-profit sectors have been equally exposed to stringent economic constraints, and only process improvement and efficiency gains can assure cost cuts without quality deterioration. One way to obtain such gains is through benchmarking.

In the 2010 Global Survey on Business Improvement and Benchmarking, a study by the global benchmarking network, companies reported that the main benefits from benchmarking were: improved performance of processes, learning what other organizations are doing, and the ability to address major strategic issues. Nevertheless, the same survey reports that only 39% of companies were in fact engaged in best-practice benchmarking (i.e. searching for the best way or solution by studying other organisations that are high performers in particular areas of interest). The reasons behind some companies not performing benchmarking exercises were varied: e.g. lack of resources, lack of commitment from top management, lack of capabilities, or fear of sharing information. The latter obstacle was the most prominent in Middle East-African companies, while in Europe the lack of resources was

considered the most important obstacle.

While there is no specific data for the case of Portugal, it is expected that Portuguese companies, keeping the pace with its European counterparts, have benchmarking procedures in place as a way to improve efficiency and reduce costs. The increase in the number of consultancy firms providing benchmarking services is clearly an indication that the benchmarking business is growing and that companies are outsourcing the benchmarking capabilities that they do not possess. Some examples of consultancy firms are: Interactive benchmarking at Ibensoft, benchmark analytics at Gartner consulting, Deloitte Global Benchmarking Center, or health specialized benchmarking at lasist or at Doctor Foster Intelligence.

Three challenges underlying benchmarking exercises are the following:

1. Variety of interested parties.

There is not usually a single perspective of performance, and benchmarking exercises can serve varied publics. This is mainly true in the public sector, where benchmarking can serve the interests of service managers (as a way to foster improvement), but it can also serve the interests of other parties: mainly governmental institutions and the general public. Consider for example the case of an hospital. Benchmarking the treatment of a knee replacement procedure (e.g.) in one hospital against existing services in the country, can be seen as a way to improve the process, but can also serve the individual that intends to make a knee replacement surgery and may want to have access to performance metrics of the various services

to choose one that corresponds to his/her criteria (price, quality, accommodation, distance from home, etc.). The variety of publics interested in public services' benchmarking, makes it more difficult to perform this type of benchmarking, in the sense that various perspectives co-exist and can sometimes be contradictory (i.e. good performance under one perspective is not necessarily good performance under another). In spite of this, availability of data for external benchmarking (i.e. comparisons between companies as opposed to comparisons within the same company, which is called internal benchmarking) is more prevalent in public services, given the existence of central governmental institutions that typically regulate/manage the public service institutions and gather data and information about them.

2. Difficulties with external benchmarking.

For private companies the most common (and easy) type of benchmarking is internal benchmarking, where stores of the same retail company, or branches of the same bank can be benchmarked and performance targets can be set based on comparative analysis. External benchmarking of private companies is less common and not easy to implement, in spite of many well-known success cases such as Rank Xerox (the pioneer), AT&T or Alcoa. Some accounting or macro-level data is publicly available for private companies or industries (through innumerable data bases, some of which freely available on the web), and this has fed a large body of literature on performance evaluations and efficiency analysis. Note, however, that while this type of analyses may be part of a benchmarking exercise, they cannot be considered

benchmarking per se, as they lack some important ingredients for any benchmarking exercise: the commitment of managers, and the use of benchmarking results for learning and improvement over time.

3. New forms of benchmarking.

While there are difficulties in comparing companies against their competitors (as the sharing of data, information, know-how or skills can have side-effects), there are other benchmarking potentialities, not fully explored yet. One such possibility is the application of benchmarking tools on suppliers, where the company can play the role of a regulator analyzing and benchmarking its suppliers such that decisions regarding procurement can be made. Depending on the market power of the company, supplier data may be very easy to obtain. Another possibility is to use, within their benchmarking tools, information from customers. In that case the company puts itself in the role of a customer's supplier and benchmarks itself against competitors from the perspective of the customer. While the available information in this case may not span many detailed operations within the company, it will be easy to collect and analyse. Customer feedback can then be used to understand the weaknesses and strengths of the service provided in relation to its competitors, and further internal analysis may identify the causes of problems and best-practices that should be pursued.

may face some challenges relating to the difficulty of gathering data from competitors, the need to choose one perspective of analysis (or using multiple perspectives), and also the choice regarding what to benchmark: in that respect it is important to note that benchmarking suppliers and customers can be used as a way to improve effectiveness and service quality.

In summary, a company wishing to embark in a benchmarking exercise

SLab Reviews

Synopsis of recent research relevant for practitioners

Customer Experience

Designing excellent customer experiences is critical in today's markets. This paper stresses that it is not sufficient for companies to excel in individual interactions with customers; they have to pay adequate attention to the customer's complete experience on the way to purchase and after. Many studies have showed that high-quality customer journeys lead to increased customer satisfaction and loyalty. The authors recommend that companies identify key customer journeys and then engage the entire organization in redesigning the customer experience. This requires organizations to change their orientation away from individual customer touchpoints to focus on the end-

to-end journey. Since these journeys may span several functions, this requires a cross-functional approach, avoiding siloed management.

Increasingly, customer journeys are multichannel. SLab has recently developed a methodology for designing high-quality multichannel customer experiences, taking into account not only the customer perspective but also the operational efficiency of service delivery (Sousa et al (2013), "A structured methodology for the design of multichannel service delivery systems", Managerial Report, available in SLab's web site).

Keywords: service design; customer experience; customer journey

Compiled by: Rui Sousa based on

[Rawson, A., Duncan, E., Jones, C. \(2013\), "The truth about customer experience", Harvard Business Review, September.](#)

Digital Demand and Omnichannel Services

Companies are increasingly offering omnichannel services whereby customers can choose and intertwine different channels to obtain services (e.g., stores, internet, smartphones, etc.). This report examines the drivers and consequences of adoption of omnichannel strategies. The main reason why companies are going omnichannel is to achieve service differentiation and this is changing the requirements placed on the supporting supply chains. The study concludes that rather than executing at one end of the spectrum with one strategy (e.g., cost), supply chains will have to move towards the middle of the spectrum, managing *value* instead of just cost. As a consequence,

supply chains may need to abandon their obsession with standardization and one-size-fits-all processes. Such universal approach leads to some customers getting exactly what they want at the right cost while others are either overserved or underserved. Instead, a service differentiation programme can be built by performing cost-to-serve analysis to estimate the costs generated by specific products, customers and/or channels across the end-to-end supply chain. The goal of cost-to-serve analysis is a more granular view of the net cost ranges, so that the right trade-offs (cost vs. service) are made for the right customers.

Keywords: digital economy; e-commerce; omnichannel; retail; supply chain

Compiled by: Rui Sousa based on

["Digital Demand and Omnichannel: The Move Towards Middle", Research Report, SCM World, 2014.](#)

Consumers' mobile marketing acceptance

The worldwide penetration of mobile phones is growing substantially. In Europe mobile phone penetration is close to 100%, while smartphone penetration is approaching 50% (Nielsen Research, 2010).

Mobile marketing refers to a set of programs and practices that firms employ to communicate and engage, in an interactive manner, with consumers and enable them to access information, download content, or purchase products on mobile devices. Although the number of consumers that adopts mobile solutions is growing, there is a surprising number that still avoid them.

In this article, the authors examine factors influencing consumers' acceptance of mobile marketing across three influential markets, namely U.S., China and Europe. This study is based on a sample of young mobile phone users, considering that the youth generation has readily embraced

mobile devices much more than previous generations. The authors examine the direct effect of four consumer traits on attitudes towards mobile marketing: perceived usefulness, innovativeness, risk avoidance, and personal attachment. The results show that perceived usefulness, innovativeness and personal attachment generate positive consumer attitudes towards mobile marketing in all three markets. In China and Europe, but not in United States, consumers' high risk avoidance leads to a reduction of positive attitude toward mobile marketing. Results also emphasize the need for a customized approach in mobile marketing considering the influence that cultural differences may play in the success of such a strategy.

An interesting project within SLab's research scope would be to replicate the study in the Portuguese market.

Keywords: global marketing; innovation diffusion; Wireless communications

Compiled by: Susana Costa e Silva based on

Gao, T., Rohm, A.J., Sultan, F., Pagani, M. (2013), "Consumers un-tethered: A three-market empirical study of consumers' mobile marketing acceptance", *Journal of Business Research*, December, Vol. 66, Issue 12, pp. 2536-2544.

Having a strategy for new service development

Reflecting the contribution of services to the economic growth and business competitiveness, both researchers and service providers are devoting more attention to new service development (NSD). As a result, managers moved from an ad hoc development process to a more systematic and formal approach. Nevertheless, the results of NSD performance are still low. According to a survey conducted by Edvardsson et al. (2013), about 43% of new services launched to market failed. A main cause for this failure is a poorly implemented or lack of a service development strategy suitable to the line of business. Although, the generic key strategic factors that influence NSD (e.g.

customer co-creation, integrated development teams, formalised development process) are well known, seldom their effects on the NSD performance are tested before implementation. The study concludes that firms should adopt a service development strategy that focuses on the value proposition and the firm's strategy. Accordingly, the NSD strategy must take its point of origin in customers' value creation. NSD failures can be minimised by combining researchers and managers knowledge, to design services in a structured way that balances customer experience and operational efficiency.

Keywords: New service development; Strategy; Service industries

Compiled by: Jorge Julião based on

Edvardsson, B., Meiren, T., Schäfer, A. and Witell, L. (2013), "Having a strategy for new service development - does it really matter?", *Journal of Service Management*, Vol. 24, No. 1, pp. 25-44.

Servitization

In today's service-dominated economy, an increasing number of manufacturing companies competes through a portfolio of integrated products and services to underpin competitiveness. The process through which manufacturers build revenue from service provision is called servitization. In these papers, Tim Baines argues that servitization is much more than simply adding services to existing products, it's about viewing the manufacturer as a service provider that sets out to improve the processes of its customers through a service-focused business model, rather than product-based innovation and cost reduction. Manufacturers may choose to offer services supporting their

products (e.g. maintenance) or opt to provide advanced services supporting customers. The outcome of these advanced services is focused on a capability for a customer to perform a business function or process (e.g. contracting). Advanced services can hold high value for both manufacturers and customers. They can help strengthen relationships, lock-out competitors, and grow revenues and profits while reducing costs and improving quality to the end user.

The potential of servitization is immense. Documented benefits from servitization practices adoption can be found in large corporations as well as in SMEs.

Keywords: servitization; competition through services; sustainability

Compiled by: Carolina Horta based on

[Baines, T. \(2013\), "Servitization Explained", *The Manufacturer*, November, Issue 9, Vol. 16.](#)

[Baines, T. \(2014\), "Sustainability and growth - The impact of servitization", *The Manufacturer*, December/January, Issue 10, Vol. 16.](#)

[Baines, T. \(2014\), "The small serving big", *The Manufacturer*, April, Issue 3, Vol. 17.](#)

Customer-driven benchmarking

Benchmarking is the process through which organizations can learn from the best-in-class companies. Traditionally the benchmarking efforts have been directed towards operational practices, efficiency and cost. However, recently a new movement has emerged - that of benchmarking customer service. Most companies collect and analyse feedback from their customers about the products or services they provide. However, a large number of companies do not compare their customers' experience with what is received from a competitor. In a survey by [Customer Champions'](#) it is reported that a significant number of organisations don't measure any form of satisfaction provided by their competitors. In the article by [Shamma and Hassan](#) the authors stress the fact that success

is defined by customers and, as a result, benchmarking exercises should focus on customers too. Customer-driven benchmarking is, therefore based on determining the benchmarks that matter to customers: **Performance value** - the customer's evaluation of the performance of a product or service; **Price value** - the customer's evaluation of a product/service value in terms of whether the utility gained in exchange is worth the buying power sacrificed; **Personalization value** - results from the degree to which product's attributes are relevant to a customer's personal values. This article provides an interesting theoretical framework for customer-based benchmarking. The operationalization of this type of framework can be done within SLab capabilities and expertise.

Keywords: benchmarking; competitive strategy; sustainable marketing performance

Compiled by: Conceição Portela based on

[Shamma, H., Hassan, S. \(2013\), "Customer-driven benchmarking: A strategic approach toward a sustainable marketing performance", *Benchmarking: An International Journal*, Vol. 20, Issue 3, pp. 377-395.](#)

Big Data and Business Analytics

The terms 'big data' and 'business analytics' have gained popularity in recent years. Big data refers to the high volume, high velocity, and high variety of data at the disposal of companies. The term 'business analytics' is related with the use and analysis of those data for data-driven decision making.

OECD published recently a report exploring the challenges posed by big data, with emphasis on five service sectors (online advertisement, public administration, health care, utilities, and transportation), since the value of data varies significantly among sectors. The innovation areas identified in this report are: the use of data to create new products/services (including using data as a product or as a major component of a product); the use of data to optimise production or delivery processes; the use of data to

improve marketing; the use of data for new organisational and management approaches or for improving existing practices; and the use of data to enhance research and development. As a specific example, we can point out the recently published article in [McKinsey&Company](#) which stresses on the use of data for pricing decisions. The main suggestion by the authors is to use granular and detailed data for pricing decisions, which is possible through four basic steps: Listening to data, automation, building skills and confidence, and actively manage performance.

SLab team members can provide a variety of analytical tools that can be helpful in enhancing the analytical abilities of service companies and help them respond to the challenges posed by big data and business analytics.

Keywords: big data; pricing decisions; data-driven innovation, policy issues

Compiled by: Conceição Portela based on

[Baker, W., Kiewell, D., Winkler, G. \(2014\), "Using big data to make better pricing decisions", *McKinsey&Company - Insights & Publications*, June.](#)

["Exploring Data-Driven Innovation as a New Source of Growth", *OECD Digital Economy Papers*, June 2013.](#)

Augmented Reality Applied

Since the distant year of 1968 we have been witnessing the technological evolution and usefulness of augmented reality, which seeks to integrate the real with the virtual, in a non-immersive manner. This article, focusing on software development engineering, clearly demonstrates the potential of this technology in the tourism sector.

Augmented reality via mobile devices provides, particularly in urban and cultural spaces (e.g., museums), new and

enriching experiences for tourists. The paper presents a solution which provides relevant information to tourists in the context of a botanical garden.

As guidelines for the software design, emerges the importance of an user-oriented application with intuitive, clear and attractive interface, providing a relevant service easily shareable on social media.

Keywords: mobile application; augmented reality; usability

Compiled by: António Andrade based on

[Pereira, F., Silva, D.C., Abreu, P.H., Pinho, A. \(2014\), "Augmented Reality Mobile Tourism Application", Chapter in Rocha, A., Correia, A.M., Tan, F.B., Stroetmann, K.A. *New Perspectives in Information Systems and Technologies, Volume 2*, Springer International Publishing, 2014.](#)

News & Events

School of Economics and Management selected to organize the 7th EurOMA Summer School

The School of Economics and Management - Universidade Católica Portuguesa was selected to organize the 7th European Operations Management Association (EurOMA) Summer School in Operations Management, from 6-10 July 2015. The theme of the Summer School will be “Operations Management in the Digital Economy”, and will have the contribution of **SLab** researchers.

Rui Sousa delivers keynote in the Symposium of Production Engineering in São Paulo

Rui Soucasaux Sousa, **SLab** Director, was invited to deliver a keynote talk at the Symposium of Production Engineering to be held in São Paulo, Brazil, in November. The keynote theme will be “The Operations Management in the Digital Economy”, and will make use of the extensive research conducted by **SLab** in this area. It will certainly be a further opportunity to expand the international network of **SLab** in Latin America and Portuguese-speaking nations.

MSc in Service Management kicks-off its 7th Edition

The 7th edition of the MSc in Service Management started on October 1st. The Masters in Service Management aims to equip professionals with the right skills for the new service-intensive economies (e.g., services in healthcare, banking, insurance, public sector, consulting, retail, transport, communication, etc.).

Susana Costa e Silva invited to the EIASM Symposium on Doctoral Training in Management Research

Susana Costa e Silva was one of the seven distinguished guest speakers on the event EIASM Symposium on Doctoral Training in Management Research: The Next 25 Years, which took place on 29th September 2014 in Brussels, Belgium. Susana Costa e Silva shared her experiences and ideas on Marketing via a lecture on the symposium theme.

6 jul. 2015

7th EurOMA Summer School in Operations Management
6-10 July 2015, Porto, Portugal

15 jun. 2015

14th European Workshop on Efficiency and Productivity Analysis
15-18 June 2015, Helsinki, Finland

24 aug. 2015

13th International Conference on Data Envelopment Analysis
24-27 August 2015, Braunschweig, Germany

SLab discusses international network of service research centers

SLab, represented by its Director Rui Soucasaux Sousa, participated in a meeting of international research centers in the field of Services Management. The meeting took place at the Service Research Center from the University of Karlstad, Sweden, 25-26 September 2014. Relevant topics for future research in the area of Services Management were discussed, as well as the development of formal mechanisms for collaboration between the various existing centers in the area of Services Management in Europe, Asia and the United States.

Conceição Portela invited to the conference Efficiency in Education

Conceição Portela will participate as invited speaker in the conference Efficiency in Education, which will take place in London, 19th to 20th September 2014.



CATÓLICA PORTO
SCHOOL OF ECONOMICS AND MANAGEMENT

SLab – SERVICE MANAGEMENT LAB

Email: slab@porto.ucp.pt

T. +351 226 196 200

F. +351 226 196 259

Católica Porto

Rua Diogo Botelho, 1327

4169-005 Porto

www.feg.porto.ucp.pt/slab/en

