
Introduction

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Planning, management and control of transport and logistics services for passengers and freight are generally complex or large-scale problems with economic, social, organisational and environmental aspects to be addressed. The aim of this special issue is to show how classical and new methodologies could improve knowledge in services planning and management. As a matter of fact, many analytical approaches from Operations Research and Management Science are well suited to service problems. These include modelling and simulation, multi-objective programming, optimisation techniques, heuristic algorithms, decision support systems, data mining, performance evaluation, customer satisfaction evaluation, benchmark analysis, statistical analysis and data envelopment analysis.

Moreover, the multi-disciplinary nature of transport and logistics services requires the support of different scientific disciplines and the cultural background of applicative projects carried out in different countries.

Therefore, this special issue presents seven original research papers, both theoretical and practical, in the strategic and tactical context of service operations management. The focus of these selected papers is on transport and logistics services evaluation, innovation technologies implementation, innovative urban transport systems and logistics systems at local, national and international level, pilot projects and case studies validated with real data.

New urban transport and logistics services represent a real challenge for the efficient and sustainable mobility of passengers and goods.

The paper by Luè and Colomi discusses the problems of car-pooling services and presents a web-based software tool developed within the DREAMS project. The functionalities of the information system are extensively illustrated and a case study relative to university students in the city of Milan, Italy, is reported. The survey was carried out with web-based questionnaires and a simulation was developed to test the technical and geographical feasibility of such a service. Good results were achieved for the park and ride scenario.

As regards car sharing, the paper by Awasthi, Chauhan and Breuil first of all illustrates the research results and the projects developed to assess user needs and preferences for a new service. A questionnaire survey carried out in the urban community of La Rochelle, France, is presented with a broad discussion about the different user attitudes and behaviours as regards also the location choice of car sharing stations. Interesting results are presented and appropriate operation factors identified and recommendations for the feasibility of a new service implementation are outlined.

In urban transportation analysis and planning, the geographical accessibility to facilities in the network nodes plays an important role in the assessment of transport system quality. The paper by Mabrouk, Boulmakoul and Bielli presents a new methodology based on a fuzzy spatial network Voronoi diagram with the aim of developing useful decision-making tools. The basic mathematical fuzzy logic is illustrated and then two algorithms are proposed in order to compute the fuzzy weights of the shortest paths in the transport network. Finally, the fuzzy Voronoi geographical accessibility to facilities is defined as a complex indicator based on spatial geographical information, particularly suitable in supporting decisions relative to network node capacity improvement or in evaluating alternative project solutions.

Urban freight transport is very relevant from the environment sustainability point of view and has been considered a 'city logistics' problem concerning the total organisation of goods distribution inside the city.

In order to address the optimisation problem of freight transport in the context of medium-sized cities, the paper by Delaitre, Molet, Awasthi and Breuil discusses the different approaches proposed and projects developed. It then presents a methodology with four stages and illustrates the characterisation of the cities in terms of logistics and goods distribution factors. Finally, some indications on the performance evaluation of possible solution implementation are reported.

Campagna and Filippi, on the other hand, present information architecture for the management of urban freight distribution by small transport operators. In order to improve efficiency and service quality through the continuous monitoring of vehicle fleet operations, the paper illustrates an information and communication platform with its general architecture and hardware-software components. It is able to provide the acquisition of real-time data and the calculation of several key performance indicators, related to transport, utilisation and logistic categories. A pilot study is carried out on the daily food distribution service in the city of Rome, Italy and the wide set of collected data allows the evaluation of routes, operational costs and productivity. Finally, it outlines the criticality of depot location with respect to delivery area, route optimisation and barriers to system implementation.

The field of logistics and distribution is going to be dominated by large-scale world-wide service enterprises and is characterised by networks of SMEs aimed at optimising the logistic processes. The paper by Mazzarino reviews logistics processes mapping and performance measurement techniques and presents an elaboration and adaptation of the SCOR approach, with the identification of several key performance indicators. The case study was carried out with reference to a panel of Italian companies operating in different sectors and the interesting results of the survey are discussed. Finally, policy recommendations suggest how to improve company competitiveness and optimise logistics services.

As regards global logistics, the paper by Zhu, Schulze and Zhao presents an extension of the dynamic model of the international logistic system with the explicit introduction of

the uncertain exchange rate fluctuation risk. The aim of the optimisation model is to find out the equilibrium transaction volumes and prices. In order to solve the model, a variation inequality problem is formulated and a projection gradient algorithm developed to find equilibrium conditions. Numerical simulations and stability analysis are elaborated to evaluate the convergence and stability effects.

The main achievements of the papers lie in the definition of key performance indicators and the development of methods for service evaluation, the design of information and communication platforms for monitoring and managing the transport and logistic services, the analysis of user needs and of system requirements in designing new urban transport services.

We would like to thank Prof. Dash Wu, Editor-in-Chief of the *International Journal of Services Sciences*, for giving us this opportunity to edit this special issue devoted to transportation and logistics. The experience has been particularly fruitful for the development of new methods and tools for service planning and management but also for their validation through applicative projects.