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THE IMPORTANCE OF IOS (INTERNET OF SERVICES) FOR URBAN MOBILITY, WITH EMPHASIS ON THE SHARED BICYCLE SERVICE IN SÃO PAULO CITY, BRAZIL.

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INTRODUCTION

The economic growth that took over major cities worldwide, including São Paulo in the 1950s, was followed by high population growth, urban sprawl, and pollution. The increasing number of motor vehicles circulating in cities is a major global concern as it raises the number of traffic accidents and alarmingly elevates the CO_2 (carbon dioxide) levels in the atmosphere, leading to a rise in the number of people with cardiorespiratory diseases. Urban mobility, air quality, and mortality rates due to traffic accidents have been discussed by the high echelons of global meet-ings on the subject, highlighting the importance of active mobility. In this sense, attention has been drawn to the use of bicycles as a mode of transportation.

OBJECTIVE

The main objective of this research is to identify the importance of the Internet of Services (IoS) for urban mobility through the provision of shared bicycle services.

METODOLOGY

The methodology of this paper consists in an extensive literature review to under-stand the historical and theoretical context related to urban mobility, industrial growth, and the use of bicycles as a means of transportation.

Furthermore, the literature review explores shared bicycle services, active mobility, urban public policies, and the influence of the Internet of Services (IoS) on urban mobility using São Paulo city, Brazil, as a reference.

FINAL REMARKS AND OUTLOOK

The bike-sharing system service called “tembici Itaú”, Figure 1, providing 300 stations and 3,000 bicycles in collaboration with the São Paulo City Hall Government. The importance of the internet in services for urban mobility can be observed in four fundamental aspects [9]:

a) **Health:** If the population adopts bicycle use as a means of transportation, there would be a decrease in the number of people with circulatory and cardiovascular diseases, as well as a reduction in the number of people with diabetes. These health benefits could reduce São Paulo's SUS (Unified Health System) spending by R$ 34 million.

b) **Individual Economy - Income:** Workers with shorter commuting times tend to show higher productivity. For public transportation users, bicycle use could represent a 17% reduction in transportation expenses, while for São Paulo residents using private motorized transportation, it could mean an average monthly savings of up to R$ 450.00.

c) **Impact on the Municipality's Economy:** Increased productivity and consequent GDP growth with reduced commuting time.

d) **Environmental Impact:** Considering the potential for cycling and the fact that bicycles emit zero CO_2, the impact of reducing pollutants by replacing cars with bicycles is significant.

Fig 1. Tembici (Bike-Itau) station in São Paulo. Source: CC BY-NC-ND 3.0

It is of utmost importance to observe the impact on the economy, health, mobility, and the environment provided by the use of shared bicycles. The inclusion of different transportation modes, besides promoting equity, fosters social development.

Neighborhoods farther from the center of São Paulo often lack infrastructure that al-lows their residents access to social development facilities (health, education, work, and leisure), forcing them into commuting. Unfortunately, these individuals may not have the financial means to pay for a bus, or the neighborhood may not be served by subway and train networks. The use of public shared bicycles can provide opportunities for these people.

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