

11,000 taxi drivers as motivators of science divulgation

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Abstract

Taxis por la Ciencia (taxis for science) is a program driven for over two years by the Dirección General de Divulgación de la Ciencia (DGDC) of UNAM that promotes reading while using this type of public transport through printed materials available in a "magazine box" placed in the back of the front seats of the taxi. During their journey, users can read about diverse scientific subjects in multiple materials selected from the perspective of science public communication.

From its start, the project has aimed to involve the taxi drivers as the main actors and promoters for the appropriation of the scientific and technological knowledge.

Its antecedents start in 2010, when the DGDC donated the ¿Cómo ves? magazine of science divulgation to all taxi drivers that took their periodic evaluations. These actions had a positive impact between the drivers which in turn extended the program making it available for the all users. Later, other materials were introduced, and so strengthening this program was achieved.

Taxis por la ciencia celebrate two years operating and now comprises 11 thousand operators that have joined voluntarily. In the period from June 27 of 2011 to July of 2013, the participation has been triplicated to more than 11 thousand science-promoting taxi-drivers, and reading-booster was achieved. Furthermore, the participation of several

centers and institutes of scientific research, as well as other educational institutions were also attained, of which the Universidad Autónoma de la Ciudad de México (UACM) stands out, contributing with science divulgation materials for taxi drivers and their users.

Introduction

In Mexico City mobility is complex; the public transport network is insufficient to provide an effective and quality service for its more than 112 million inhabitants. At rush hours, when traffic congestion (often result of a poor planning of urban design) generates chaos, get somewhere on time becomes a mission impossible.

With increasingly long metropolitan journeys, transportation of low capacity like the taxi, represents almost half of total trips: 1.1 million each day.

In city, more than 134 thousand legal taxis operate which are subject to state regulations that define rates and rules, allow units to provide service depending on the driver skills behind the wheel, and also award the car license and the automobile registration among other issues.

To these, around 40 thousand units called " pirate " are added who have neither record nor card or permission, but that given the lax implementation of laws, they continue providing the service. Such units has grown exponentially in recent years and often are the scene of a large number of crimes.

Every once in a while, social pressure or political campaigns forces authorities to regulate units and then legal taxis boost, however new irregulars appear on scene. So this is an employment niche that is constantly growing, mainly because it has very few barriers to admit new workers: many people join up to this service after being fired from their formal jobs or seduced by the advantages of an office without bosses or work fixed schedules.

The ease of performance and dynamism of activity has led to the inclusion of many people alien to this guild, like those with an university education. However, despite the heterogeneity of this community there is an element that identifies all, since this chore tends to professionalization eventually they end up self assuming as public officials everytime they serve the citizens.

Background

Taxis by Science emerged as an alliance between the Dirección General de Divulgación de la Ciencia (DGDC) and the Centro para el Fomento de la Educación y Salud de los Operarios del Transporte Público de la Ciudad de México, AC (CENFES) to leverage the infrastructure and contact with the taxi drivers that this one has as the agency responsible of their professionalization, placing them as key players on divulgation of science and so potentialize the impact into different sectors of the population.

Finally, thanks to the support and enthusiasm of the taxi drivers, is embodied in a program which since 2010 both organizations operate. We highlight that CENFES cooperates with 50% of operating expenses.

Program Objectives

The main goal of this program is to approach both operators and users, to a scientific culture thru various materials. It also favors the intellect via imagination, questioning and reflection by encourage reading.

According to CENFES statistics about 80% of trips in Mexico City are made by public transport, therefore *Taxis by Science* provides cultural enrichment and entertainment during people's trips, thus dignifying the work of operators and standing out the important work they do for the benefit of those who inhabit the city. Furthermore allows the user to identify whether the unit he/she is boarding is pirate or not, because only those taxis with the appropriate checks can participate.

How does it work?

Taxi drivers attend regularly (every two or three years) to renew their Card. After undergoing various tests and corroborate successfully their skills, they acquire permission to offer the taxi service.

Once renewed the card and as long as it remains effective, taxi drivers can join the program at the Expertise Module. Then they sign a letter committing themselves to care materials and renovate at least every six months or as soon as they run out.

After register, operators receive a magazine bag-rack, that should be placed at the back of the front seat. This contains various materials (magazines, brochures, advertisements) with information of the scientific research institutes and academic centres that collaborate with us, in addition of several pamphlets published by CENFES with health information aimed both operators and public in general.

Program Goals

Throughout the three years of operation of this program, one of the main goals we have considered is the integration of several institutions, companies and universities that do research or divulgation of science, through the inclusion of their materials in order to enrich the offer of the magazine bag-rack.

On the other hand, the work done for dissemination and enrollment to the program must be constant and arduous, in such way that we could rely on 6000 drivers for science per year, which in turn will affect thousands of users that learn science in their public transport units.

To achieve this, various strategies have been designed. One of the main obstacles that we have faced is that the Expertise Module is located in an area of the city with complicated access, so taxi drivers can only come each year when they have to renew their Card. To facilitate the renewal of materials in 2013 six alternative distribution centers were opened, strategically located to cover the four main areas of the city: north, south, west and east. These centers indeed are situated in enclosures of Autonomous University of Mexico, which gives support and prestige to the program and the labor we make.

Another point to be developed in the coming years will be the design of a strategy to promote identification between the taxi drivers, in order to constantly motivate them to participate actively in the program. The major axis of this strategy is to generate a kind of membership that gives tangible benefits, directly to the drivers by science, such as discounts in many establishments.

Finally, the consolidation of the program will have a continuous effect on the passengers perception of the operators and the service they provide, everytime the drivers of *Taxis by Science* realize an activity with an immeasurable social value.

Program Experience

During the time that *Taxis by science* have been operating, from June 27, 2011 to February 28, 2013, the incorporation of nearly 12,000 workers who promote science and encourage reading in their units has been achieved.

We also embody various centers and research institutes among other educational institutions as UACM, to contribute with scientific outreach materials that taxis bring.

Taxis by Science is a unique program of its kind, there is not , at least in Mexico, any record of this kind of outreach strategies that impact certain sectors of the population with a huge gap on science knowledge.

This is the main reason why our experience has been rather learning by both the execution and the collaboration of different agencies. Not everything has been successful in this regard , but rather a constant search for new strategies, methods, means and delivery ways, materials generation and program strengthening.