1. STARTING SITUATION

1.1. INTRODUCTION

When interaction channels between administration and citizens are established[1], the following concepts are usually used:

| To raise awareness: Awareness-raising is a process that seeks to inform and educate people about a topic or issue with the intention of influencing their attitudes, behaviours, and beliefs towards the achievement of a defined purpose or goal.

> Awareness: knowing something; knowing that something exists and is important.

| To inform: To tell somebody about something, especially in an official way.

| To communicate: To share or exchange information, news, ideas, feelings, etc.

| To participate: To take part in or become involved in an activity.

Based on these definitions, in this document we use the term 'communication' to encompass the exchanging of information, as well as the awareness-raising process.

When we talk about communication campaigns, we refer to the realization of different communication actions aiming to achieve the same goal.

It should be noted that, although communication campaigns are traditionally unidirectional (from the administration to the citizens), work is currently underway to establish channels that allow two-way communication between citizens and the administration, so citizens may also establish communication with the administration, and send their questions, doubts, suggestions, and answers to questions asked by the administration.

1.2. KNOW AS YOU THROW

1.2.1. DESCRIPTION

KAYT (*Know-As-You-Throw*) is an innovative concept to reduce municipal waste and increase separate collection through a knowledge & persuasion-driven approach. The idea is that the habits of citizens towards separate collection can be improved by informing them in a continuous and convenient way, combining technology, gamification, one-to-one meetings with real informers and some economic and/or social benefits.

On the other hand, a PAYT (*Pay-As-You-Throw*) is an economic instrument based on the polluter pays principle, in which the user of the waste collection service pays a waste charge according to their real waste generation and the waste management service that is used. Thus, PAYT schemes allow to

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[1] We use *Citizens* in a broad sense, including all agents not being part of the administration: citizens, commercial activities, associations, etc.

reward those users that make an effort to reduce their waste and separate it correctly, as well as penalize those that do not do so.

1.2.2. TYPOLOGIES AND EXAMPLES

So far, two major approaches are known regarding KAYT schemes: one based on sending messages to users' mobile phones, and the other one based on displaying messages on vending machines.

KAYT schemes based on sending messages to users' mobile phones:

The first step when implementing this sort of KAYT consists of linking the user identification technology elements (such as bins fitted with a tag or a chip in case of door-to-door collection schemes, RFID cards in case of collection schemes with locked containers, or waste collection centre user cards, among others) with the user's mobile phones where to send personalized messages using communication channels such as WhatsApp, SMS or Telegram.

Since the *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)* establishes that the use of personal data, such as user's' mobile phone number, must be informed and expressly consented by them, citizens participation on any KAYT scheme is strictly voluntary. Therefore, local authorities wishing to implement a KAYT scheme must:

> Explicitly inform users that joining the KAYT scheme is completely voluntary and, a document must be signed to formalize user's acceptance.

> Explicitly inform users participation involves the need to use personal information such as phone number.

> Explicitly inform users about the advantages established by the local authority to promote participation in such KAYT scheme. Some of the incentives might be, for instance, discounts on the waste collection charge, discounts in local shops, or giving awards and prizes based on a points system that can be obtained depending on the user participation.

> Establish mechanisms for obtaining and registering users' mobile phones. For that purpose, although local authorities may enable web pages to obtain this personal information by electronic signature, it might be more convenient to obtain this information and user consent in a presential manner. This could be done when delivering bins (fitted with a tag or a chip) or RFID cards to users, so then the campaign staff is able to respond to users' questions and doubts individually.

Currently, in the framework of the REthinkWASTE project (https://rethinkwaste.eu), funded by the EU LIFE programme, various pilot projects are being implemented in four areas: Bassano del Grappa (Veneto), Varese (Lombardia), and Bitetto (Puglia), in Italy, and in Catalonia (Sant Just Desvern, Santa Eulàlia de Ronçana, Cardedeu i El Brull). In all these areas, the KAYT approach is quite similar, based on sending messages to users' mobile phones.

In the case of Sant Just Desvern (18.670 inhabitants), the local council is currently working on the implementation of a new waste management model in which biowaste and residual waste will be locked, being necessary to get a user's identification card to open them. This action is aimed at increasing the municipal collection waste rates and stimulate people to a better behaviour related with waste management. This last goal will be achieved by the implementation of the KAYT approach.

Finally, the municipality of Sant Just Desvern is willing to introduce a PAYT scheme by the end of 2022,[2] taking advantage of the data produced by the new waste management model.

Life REthinkWASTE project in Sant Just Desvern

The implementation process of this KAYT scheme includes a first engagement letter sent by the city council to the citizens informing about the new waste collection model (how the system works, how the data privacy will be managed, as well as the place, day and hour to pick up the electronic card). At the same time, a website has been launched (https://residus.santjust.net/index.php/life-rethinkwaste/) to provide specific information. A label has been proposed (#Coneixelquellences) to be used in social media.

In this case, the strategy to capture the attention and interest of citizens is a rewarding system based on eco-points for accessing prize draws. Gaining more eco-points means more possibilities to gain prizes and sustainable gifts in local shops and businesses. The users can gain eco-points by interacting with the messaging system and according to their habits in relation to the new separate collection system. Currently, eco-points more can be obtained:

> By signing up for the KAYT scheme. It implies the user gives his/her phone number and signs a consent document for the transfer of personal data (5 points).

> By receiving messages informing about user's use of containers for refuse and organic fractions (5 points).

> By using the organic fraction container more than three times a week (5 points)

> By participating to campaign meetings, interacting, and visiting the campaign staff, etc. (15 points).

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[2] https://rethinkwaste.eu/pilot-areas

- By sending questions and doubts, as many as desired, although exceeding 5 questions/doubts per month would not give extra points (3 points).

- By answering 'OK' to a message that propose challenges on household waste management (5 points).

- By participating in the challenge, but the answer is not correct (5 points)

- By participating in the challenge, and the answer is correct (10 points)

KAYT schemes based on displaying messages on garbage bag vending machines;

The Italian city of Bergamo (12.639 inhabitants, 59.174 households) introduced a KAYT scheme to increase the recycling rate by means of a door-to-door collections scheme, and with a view to introducing PAYT at a later stage. Bergamo's residents were used to disposing of their residual waste in transparent standard bags. The new system will obligate them to purchase the bags at designated vending machines located in each district. These machines are equipped with a display that interacts with the waste charge software, which counts the number of bags dispensed per user. Each user receives personalised messages based on the behaviour of their neighbours from the same district.
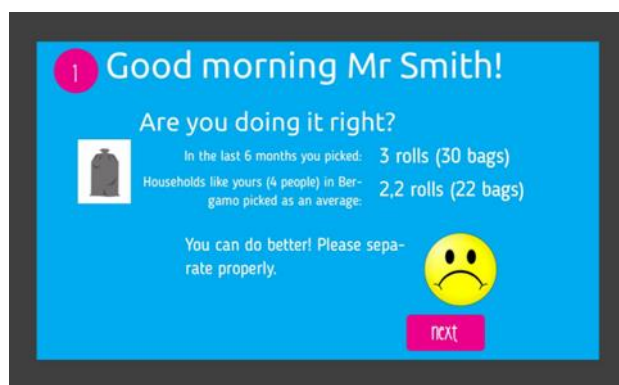
Example of personal message from the machine. Bergamo.

The kind of machines needed does not exist on the market yet, so they needed to be designed and built. To ensure that each user will access information regularly at the vending machines, the bag rolls were designed to contain only 10 bags of 40L each.

The new system was announced in advance through local newspapers, and local council and waste collection service provider websites.

It has been calculated that the production and assistance of the machines, over 5 years, will cost 0,50€ per capita, each year.

The main advantage of this KAYT approach is that the system does not require using personal information such as user's phone number. Then, since participation is not voluntary, contrary to approaches based on sending messages to users' mobile phones, such as in Sant Just Desvern, not only those who are already sensitised to the topic are reached, but also those less engaged in waste reduction and separate collection.

1.2.3. COMPARING COMMUNICATION IN PAYT AND KAYT

As previously seen, PAYT and KAYT have different purposes and particularities. Here, the main features of both schemes are compared from the perspective of communication:

- While on a PAYT scheme, communication is mainly unidirectional (at least once a year, when local authorities send the waste bill to users), a KAYT approach becomes an interactive communication tool between the administration and the citizens. Thanks to this bidirectional character of KAYT, not only the administration may send personalized information to users, such as tips and challenges according to user's behaviour on waste collection (among other possibilities), but also users may answer and interact with the administration.

- While on a PAYT scheme the information send to users is mainly economic, on a KAYT system, administrations may also send environmental information on a regular basis, so then habit changes may be achieved sooner.

- Since KAYT systems are voluntary, only those citizens participating on the KAYT would enjoy the established discounts and offers. Instead, since PAYT systems are compulsory, the same criteria for waste taxation are applied to everyone.

- Related to last point, higher citizen participation on PAYT schemes is believed to improve the results of selective collection and waste reduction, more than in KAYT schemes.

- A PAYT system has an intrinsic purpose, which is to achieve a financial stability of the waste collection service, whereas a KAYT approach does not have this purpose.

- While it has been proofed that PAYT systems lead to an increase of selective collection and a decrease on waste generation, there are still not concluding results showing a significant effect of KAYT schemes on selective collection and waste generation, reason why it is necessary to evaluate the effect of KAYT experiences on such indicators. Despite this, since citizen participation on PAYT schemes is much higher than in KAYT, it is though than the effect on both selective collection and waste generation is also higher.

1.2.4. LEGAL PRECAUTIONS

The Regulation (EU) 2016/679, also known as the General Data Protection Regulation (GDPR), establishes that the use of personal data, such as users' mobile phone number, personal data may not be processed unless the data subject has given consent to the processing of his or her personal data. In this case, consent must have been explicit for data collected and each purpose data is used for.

Consequently, this implies that citizens participation on KAYT schemes based on sending messages to users' mobile phones is strictly voluntary.

2. PLANIFICATION AND STRATEGY

2.1. COMMUNICATION PLAN

Before carrying out any communication action, a **communication plan** must be designed, which will guide the development of the awareness campaign. This plan should include the following aspects:

- Diagnosis and objectives

- Target audience

- Message and image

- Moments to communicate

2.1.1. DIAGNOSIS AND OBJECTIVES

Initially, it is necessary to analyse and understand the service for which this communication plan will be carried out: what is it, how it works, who participates in it, strengths, weaknesses, etc. Once we completely understand the service, the **objectives of the campaign** can be set, which might be:

Specific: they must define how, when, who, etc.

Measurables: they must be able to be quantified.

Relevant: they must be significant.

Achievable: they must be realistic, based on the starting point and similar to previous experiences.

Scheduled: they must be framed in a period, establishing how long should take to achieve this goal.

The objectives will allow the creation of campaign tracking indicators.

Being clear about why to communicate and what to achieve is essential to focus on the message and actions.

2.1.2. TARGET AUDIENCE

To be able to achieve the previously set goals, the message and/or channel must be adapted to the target audience. Therefore, it is necessary to be able to define who the target of the communicative action is.

In communication on waste collection services, we can start establishing target categories according to the kind of user, such as household and commercial activities. These categories may present subcategories, such as detached (or semi-detached) and non-detached households when implementing a door-to-door collection scheme.

Within the established categories and subcategories, we may find a great variety of profiles. In many cases, it is impossible to analyze all the profiles (age, sex, nationality, culture, interests, etc.), although it is necessary a careful analysis and to extract those profiles that will require a higher communicative effort. This will allow us to know which communication channels will be best suited to the campaign.

2.1.3. MESSAGE AND IMAGE

Once the object of the communication is known, as well as the objectives of the campaign and the target audience, we can create the message or slogan and the image of the campaign. In addition, when communicating, it is necessary to keep in mind that the message must comply with the following premises: rigor, transparency, and clarity.

Therefore, we need to communicate **precisely**, avoiding ambiguities, and using the appropriate words and concepts, for instance, using the concepts *selective waste collection* and *waste recycling* correctly. We also need to communicate **clearly and concisely**, so then the message could be correctly interpreted by the target audience, and **transparently**, to avoid misunderstandings and possible future frustrations, for instance, when implementing user identification systems, making it clear that a PAYT scheme will also be implemented in the short or medium term.

It should be noted that citizens will be more involved if we get to convey emotions in our message.

The image of the campaign will allow us to transmit in a more visual and direct way. This image should be common in all logistic (bins, containers, cards, trucks, etc.) and communication materials (leaflets, pamphlets, magnets, posters, etc.). When designing the communication materials, easy to read graphics are recommended. For instance, when implementing a PAYT scheme, graphic simulations of the final amount of the new waste charge will offer a clear message to citizens, which is that the ones producing less waste will pay less with the new waste charge.

2.1.4. MOMENTS TO COMMUNICATE

Communication actions may be taken in different stages of the implementation, differentiating:

| When designing the new waste collection system

| When implementing the new waste collection system

| When implementing a PAYT system

| When the new waste collection system is already implemented

2.1.4.1. WHEN DESIGNING THE NEW WASTE COLLECTION SYSTEM

A key aspect to consider when changing the waste collection system, as well as when implementing a KAYT scheme, is the user's acceptance of the system. For this reason, before implementing the new collection system and conducting the communication campaign, a participation process is recommended.

This process provides useful information to the Administration on the citizens' needs in regard to waste collection, in addition to receive inputs from the citizens that may help to design a waste charge that could be mostly accepted by everyone (among the alternatives proposed by the local authority, all

of them validated by technicians and politicians, user may give their opinion about taxable fractions, solutions for scattered households, emergency areas, etc.).

In the case of KAYT schemes, citizens could be asked about which personalized information they would like to receive, or about any other doubts they might have.

This participation could take place in two different moments of the new system definition or implementation process, being conducted in any of them or in both:

⏐ Diagnosis phase: is proposed to publicize the current model of waste collection and to collect the weaknesses and strengths of the system.

⏐ Proposal phase: aims to discuss on the new model, and to get a return to redefine some aspects of the proposed model.

Finally, a return phase is proposed to complete the process, and to set out the conclusions and proposals that will be incorporated into the new system.

2.1.4.2.   WHEN IMPLEMENTING THE NEW WASTE COLLECTION SYSTEM

The implementation of a new waste collection system or a new economic instrument, such a PAYT scheme, requires a communication campaign to transmit how it works. Some of the aspects to consider are:

⏐ Dialogue with residents should be an interactive process in which there is a flow of information to let people know about the changes brought about by the new system, to respond to questions, and to receive contributions. A physical or telephone information point is also recommended.

⏐ Information should be provided on the environmental, economic, and social impacts of waste management, giving convincing arguments so then the citizens can understand the change.

2.1.4.3.   WHEN IMPLEMENTING A PAYT SYSTEM

In the specific case of implementing a PAYT system, it should be noted that:

⏐ Users should not associate the implementation of the PAYT system with an increase in the waste charge. Therefore, the calculation of the charges must be transparent. In must be highlighted that, in Spain, the new waste law 7/2022 requires the self-financing of waste collection systems. Therefore, if it is necessary to increase the waste charge, it is recommended to increase it before or after implementing the PAYT system, but not at the same time.

⏐ The reasons why a charge is imposed on some fractions and not on others and the amounts for each fraction should be clearly explained.

⏐ It should be stressed that the new system is fairer, as it applies the 'polluter pays' principle and residents could reduce the amount they pay reducing waste or improving separate collection.

> Some pay-as-you-throw systems could be considered an added cost for residents who do not currently pay a charge, like most renters.

These aspects are also applicable to the time a pilot test is conducted before the definitive implementation of a waste collection system or waste charge.

As previously mentioned, at least two kinds of users should users should be distinguished: household and commercial activities. It will be necessary to carry out a communicative task specifically aimed at commercial and industrial activities, and if necessary, at those with a relevant waste production.

When communicating about the new waste collection or PAYT system, the message should be adapted to the different realities found in the municipality. That is, within a municipality, there might be different solutions depending on the area: door-to-door, containers with user identification, and emergency areas. Then, calculations of the charges might be different depending on the area and, consequently, the information should be adapted to each reality.

The communication campaign should be started one or two months before implementation, but not any earlier, otherwise its impact will be diminished. It should continue until implementation begins.

2.1.4.4. WHEN THE NEW WASTE COLLECTION SYSTEM IS ALREADY IMPLEMENTED

Once the new waste collection system is implemented, it is important to keep the communication channels to maintain a high level of participation by monitoring performance, resolving unforeseen problems, and disseminating results. In the first few weeks of system operation, incidents detected during waste collection should be monitored on a daily basis (for example, waste that is disposed of incorrectly). This process should consist of monitoring the garbage trucks' collection, gathering, and dealing with users' complaints, and analysing data (the number of bags and bins collected, the correct and incorrect units, the weight of the different fractions, etc.).

As part of this process, it may be effective to visit commercial activities and households that are not participating in the model. If behaviours not permitted by the ordinance are detected, the offender should be informed and notified that a penalty will be applied if the infraction is repeated.

In general, a four-month monitoring period is proposed from the time of implementation, whose intensity will decrease progressively.

In addition, residents should be periodically informed of the results achieved with the new system (In the following section, the most important communication channels and instruments are detailed). The dissemination of results should stress the benefits of implementing the new system, including a reduction of waste sent to landfill or to the incinerator and an increase in recycling. The monitoring of illegal waste disposal should also be publicised. At the same time, it is also important to run awareness campaigns about the environmental and economic advantages of waste selection.

2.2. CHANELS, INSTRUMENTS AND CONTENTS

As previously exposed, communication campaigns are composed by actions, which are carried out by means of instruments, and they get to the citizens by means of communication channels. He the main typologies are described:

2.2.1. CHANNELS

2.2.1.1. IN-PERSON

In-person channels are those which require that both the sender and the receiver of the message share the same time and place, and the message is transmitted by means of the speech of the information staff to the audience. In case any specific material (bins, cards, bags, etc.) needs to be delivered, as it may be the case for waste collection systems with individualization and user's identification, the communication message could be transmitted at the same time.

The time and place of communication actions should be adapted to the target audience. It is recommended to undertake previous dissemination of the actions. Besides, the proactive and enthusiastic attitude of the information staff is essential to achieve the communication goals.

The main in-person communication tools are described below, which may be used complementarily to effectively transmit the different messages to different recipients.

Informative or awareness sessions

The informative sessions may be open to all citizens or they may be restricted to some specific groups, such as commercial activities, associations, etc.

The session content will depend on its purpose. It is recommended that they do not last more than 1 hour, including a time for citizens to ask questions and share their reflexions. During these sessions, slide presentations are usually used to help framing the information and making the session more visual.

Attendance may be with or without previous registration, depending on the purpose of the session. If necessary, contact details could be asked to people attending.

Information points

Information points allow to transmit messages in a more individualized and agile way to citizens visiting them.

The location and the schedule may be chosen to coincide with times of high influx of citizens, such as permanent or periodic markets. This way, information arrives to someone without any need that he or she modifies his/her routines. The target audience in this sort of information points are ordinary citizens.

Door-to-door communication

It consists of visiting households, commercial activities, and/or large-scale waste generators to transmit individualized messages. The main advantage is that it allows to get the message across more people, although these actions entail a higher dedication, so their cost is also higher.

Attention office

In case of implementing systems involving an important change of citizens habits, as well as needing to deliver materials, such as bins when implementing a door-to-door system, the option of creating a permanent space for solving doubts and delivering materials must be considered, particularly during the first months of the new system.

Other

In addition to the main tools mentioned above, other in-person communication tools are workshops for schools or citizens, and cultural shows or events.

2.2.1.2. VIRTUAL

The digitalization of information in virtual channels allows for a lower use of raw materials, by means of less paper and printing ink, as well as a reduction in the emission of polluting gases, by avoiding movements taking place in in-person acts. During the pandemic period, in which attendance has been restricted, the use of virtual tools and channels has been an alternative to more traditional actions. However, it is important to keep in mind the existing digital divide, so it is not recommended to exclusively use virtual channels if the aim is to get the message across the entire population.

Virtual communication channels may be used as a complement of in-person ones, to reach as many people as possible.

These include channels that allow two-way communication between the local authority and the public: mobile applications, social media, messaging systems and information phone numbers. On the other hand, websites and municipal media (radio and TV) are channels that allow one-way communication, from the local authority to citizens. These are described below:

Websites and information materials

As a communicative tools, websites on waste collection are mostly **unidirectional channels** usually configured as a section within an official local government website, although specific websites may be launched when implementing new waste collection schemes or PAYT/KAYT systems.

Local authorities mainly use them to disseminate all the essential information related to the local services:

- Waste collection schedules:

  Households

  Commercial activities

  Scattered households

- Waste disposal system

- Complementary services

- Information for a correct separation of waste at home

- News and information on changes and new features

In addition, these websites may be also used to disseminate of the results on selective waste collection and waste prevention, as well as discounts on the waste charge and other economic incentives.

In case of implementing new waste collection systems, as door-to-door or containers with user identification systems, websites are essential communication channels, complementing in-person communication actions (meetings, information points, door-to-door communications, etc.).

<u>Mobile Apps</u>

Mobile apps are bidirectional communication tools between users and the local authority offering the waste collection service. Their main features are:

- General information on the waste collection service:

  Waste collection schedules

  Services available and specific collections for some fractions

  Recycling and waste prevention: results on selective waste collection

  Information on the calculation of the charges

  Alerts and notifications from the local government

- User's information. By logging in, users may:

  Consult information on their participation: waste disposal records over time, trends, statistics, graphs, etc.

  Obtain their own indicators on waste collection

  Consult their bills, in municipalities where there is a waste charge

- Identification. In case of containers with user identification systems via Mobile phone, the App allows identifying user's waste disposals in the containers

- Incidences. The App allows notifying incidences related to door-to-door systems in a bidirectional way:

  o From the user to the local government. For instance, incidents related on the street cleaning and waste collection services, such as when the waste has not been collected, the bin is broken, or it has disappeared.

  o From the local government to users. For instance, sending notifications on incidences or bad practices on waste disposal.

- Contracting specific services. The App lets users to apply for specific services:

  o Waste collection services (bulky waste, garden waste...)

  o Reuse of bulky waste. Through the App, the user may know which items are available and may express interest for them.

- Discounts in the waste charge and other incentives. Through the App, users may:

  o Receive notifications and discounts depending on their participation on the selective waste collection.

  o Receive awards and benefits depending on their participation on the selective waste collection. For instance, users may get virtual discount vouchers.

<u>Social media</u>

Social media are virtual platforms that allow interactions between users, so they allow a bidirectional communication between the administration and citizens:

On the one hand, the administration, by means of social platforms such as Twitter, Facebook, Instagram, etc., may:

- o Inform about events, meetings, workshops, etc.
- o Disseminate results about separate waste collection and waste prevention
- o Carry out an environmental awareness task
- o Carry out communication campaigns on new waste collection or PAYT systems.

On the other hand, citizens may have the chance to give their opinion. Thus, social media promote citizens' participation.

When implementing new waste collection or PAYT systems, they may be used as a thermometer or indicator of public opinion.

Direct and personalized information through messaging systems

Direct messaging systems such as WhatsApp, SMS, email, or Telegram may be convenient as communication and consulting channels, since they allow very direct, close and **bidirectional** communication.

Information phone number

It is also important to have a direct telephone channel to solve questions about the service, especially for those who do not have access to or are not used to new technologies. Therefore, it is necessary to offer a mobile or landline phone for inquiries, as well as a voicemail service to take note of the inquiry and the contact details to call the user back.

Virtual meetings

During the Covid-19 pandemic period, virtual communication channels were key to keep on communicating, informing, and raising awareness. Thanks to these channels, meetings were expedited easily, while they saved resources and allowed to reduce the emissions of polluting gases.

Therefore, they have become a key tool for communication, complementary to the face-to-face meetings.

Local media – Radio and TV

Most municipalities have their own or supramunicipal media. These channels are very convenient for broadcasting short videos and ads to inform about the new service.

On the other hand, these media may offer direct information in case press conferences are held, as well as preparing news about the campaign or the new service.

2.2.2. INSTRUMENTS

2.2.2.1. MATERIALS

Communicative materials allow citizens to have the necessary information, which they can consult whenever they want. There are several ways in which these materials can be made available to the public: delivery in in-person events, shipments, making them available at important gatherings, etc.

In general, a communicative material must include the following information:

| Objectives and established argument

| Useful information about how the system works

| Actions to be carried out as part of the campaign

As mentioned in 2.1.3 section, materials should include graphs or other visual means to highlight the information. Normally, this material is divided into two parts: one for general information and one for more specific information, which clearly explains all aspects of the new system, including:

| The service schedule and information about the collection method

| The types of services provided

| The payment options

| The ways of acquiring the required items (bins, bags, and ID cards, among others)

| Practical examples of how to calculate the charge, with clear explanations of the calculation method so that everyone can apply it to their case.

| The sanctions that are envisaged in case of non-compliance.

There are different kinds of communicative materials, of different extent, and each one will be used according to the main objective of the action being carried out:

| Brochure or information leaflet. Brief item with basic information about the new charge or service.

| Institutional information letter. Letter, nominal or not, which usually kicks off the communications campaign.

| Magazine or guide. Larger format element that allows to delve deeper into the subject, such as justifying the change to a new charge, showing simulations, etc.

| Magnet. Small element with information that will be searchable and accessible.

| Videos and ads. Audiovisual elements that provide information about the new service or campaign, in a visual and understandable way. Depending on the format or its purpose, it can be between 45 seconds to 3 minutes, approximately (it is not recommended to exceed these times).

| Other materials. Canopies, placards, banners, etc.

All communicative materials will use the same image campaign, thus achieving a greater display effect. In addition, it must be considered that elements for the provision or use of the service can become communicative elements as well. Thus, materials used while providing the service (bins, containers, bags, trucks, etc.) may include information about the service or the campaign image.

2.2.2.2.   GAMIFICATION

Gamification techniques use elements and principles of gaming to create an engaging learning experience or to raise awareness about a specific topic. Gamification provides immediate positive feedback to users in a way that reinforces them to continue to maintain proper selective collection habits. It may be individual or collective, and it may use digital platforms or in-person resources.

These games end up creating behaviour changes and creating a benefit for both parties.

An example of gamification is the system of accumulating points applied by some supermarkets or gas stations, with which prizes or compensations are obtained. These systems create changes in customer behaviour and habits to achieve compensation.

This tool may be used for developing environmental policies, to encourage citizens to carry out good environmental practices. In the case of waste, citizens can be rewarded if they undertake best practices. Waste collection systems with user identification facilitate the application of gamification techniques, as they provide crucial information about the use of the service of each user.

To implement gamification techniques associated with proper waste management, the following questions must first be answered:

> Which are the practices to be rewarded through gamification?
>
> > For instance, a proper use of containers, the use of waste collection centres, a proper waste separation, waste prevention practices, etc.

> How the practices to be awarded are quantified?
>
> > User identification in waste collection systems allow to answer this question.
> >
> > For instance, number of uses of selective or residual waste containers, number of visits at waste collection centres, etc.

> Individual or collective gamification?
>
> > Rewards could be stablished depending on individual information availability.

> How do we translate best practices into points? What do we offer in return to these points?

It is important to launch a platform that allows citizens to follow the process, to be able to consult the points obtained and the exchangeable goods.
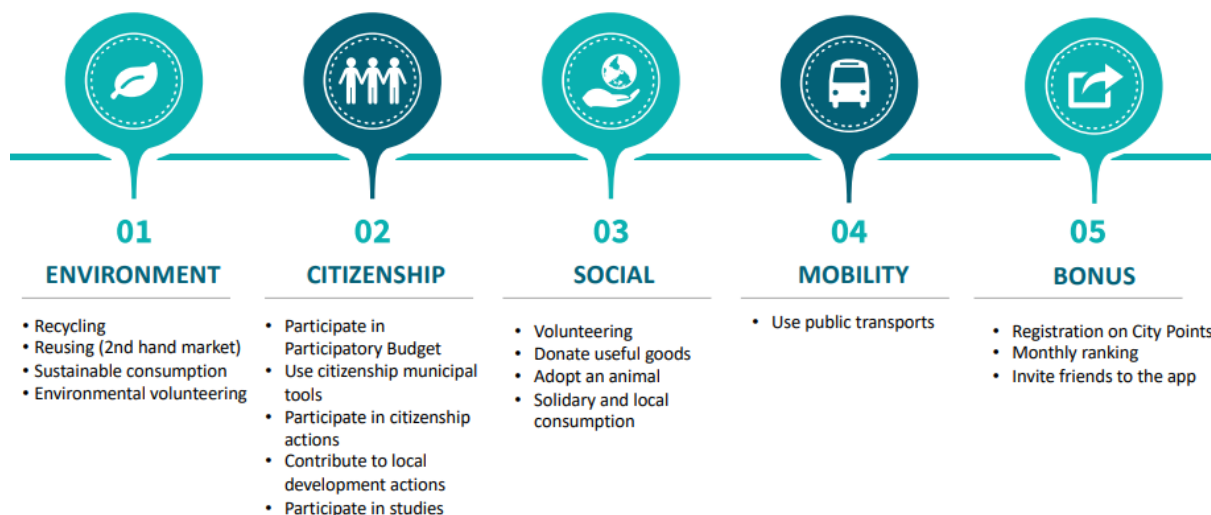
Two experiences of applying gamification in different European cities are exposed below:

WASTE4THINK. CASCAIS (PORTUGAL)

Aiming at promoting best practices among citizens and rewarding people whose actions are an active contribution to local sustainability, the city of Cascais has implemented the CITY OF POINTS project.

The innovative App CITY POINTS CASCAIS allows citizens to gather points by accomplishing some predefined actions. A certain number of points can later be exchanged for vouchers for goods or services provided for different organizations or municipality services.

Some examples of actions that allow gathering points are showed below:

01	02	03	04	05
ENVIRONMENT	**CITIZENSHIP**	**SOCIAL**	**MOBILITY**	**BONUS**
• Recycling • Reusing (2nd hand market) • Sustainable consumption • Environmental volunteering	• Participate in Participatory Budget • Use citizenship municipal tools • Participate in citizenship actions • Contribute to local development actions • Participate in studies	• Volunteering • Donate useful goods • Adopt an animal • Solidary and local consumption	• Use public transports	• Registration on City Points • Monthly ranking • Invite friends to the app

Citizens can also get collective awards, in appreciation for the best practices undertaken, which are invested in neighbourhood improvement.

<u>MOU-TE PEL RESIDU ZERO. MANLLEU (CATALONIA)</u>

Manlleu City Council promotes "Move for Zero Waste!", a campaign to promote waste reduction and to promote local shopping, by means of inclusive gamification.

Citizens must overcome different challenges, which allow them to get prizes and discounts. In this way, the role of citizens towards a more sustainable and cohesive society is promoted through:

- Environmental education: activities and challenges propose sustainable habits

- Waste reduction: challenges promote waste prevention and reduction

- Promoting local shopping: strengthening collaboration between citizens and commercial activities

- Inclusive gamification: participation open to all through new technologies or the information leaflet.

2.2.3. DEFINITION OF CONTENTS

The adequacy of different instruments will be determined by the aspects established during the communication plan development (section 2.1). Each content, as well as its communication channel (a picture, a tweet, a roll-up, etc.), will be aimed at a target audience. Both message and objectives established in the communication plan should be adapted to the specific target audience and the used channels.

The created content must accomplish the following premises:

| It must be quality content

| It must be interesting for the target audience

| It must be helpful in achieving the campaign goals

| It must be entertaining

| It must be able to capture the attention of the citizens and make them participate

Any content will need to be scheduled according to the communication channel that will be used.