
Designing a Multi – Directional Communication Model for Eco – Innovation in the Soft Drinks Packaging

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Abstract

The enforcement of the provisions of the Directive EC 2019/904 - also known as the Single Use Plastic (acronym, SUP) Directive - results in the adoption of the implementation acts by all Member States, aiming to challenge the way that food products and beverages are packed. In this given context, European soft drinks industry, retailers, governments and consumers are currently working together in order to design implementation acts (EU and governments' decisions, laws, regulations, procedures, norms, etc.) that have to incorporate a balanced consideration to the business needs, from one side, and to the ones for a cleaner environment, from the other. A particular aspect of this fragile relationship is the way that the European beverage industry would address SUP Directive's specific requirement for a minimum uptake of the recycled content of polyethylene terephthalate (rPET) in the soft drinks bottles. The purpose of this article is to model the process through which the industry could turn a legal compliance matter – the one of placing on the market plastic bottles with an ever-increased rPET content – into a public communication opportunity of the eco – innovation over the soft drinks supply chain.

Keywords

rPET, communication, eco – innovation, SUP, soft drinks, circularity, littering, consumers

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Introduction

One of the most important enactments of the Romanian Presidency to the Council of the EU in the first half of 2019 was the Single Use Plastic Directive (EC 2019/904, aka the 'SUP' Directive), a legislation masterpiece with an unparallel disruption effect over the industry, retail and consumers habits (European Commission, 2019). Transposing the principles of circular economy, the Directive provides that all plastic packaging on the Internal Market to be recyclable or reusable by 2030, thus resulting a fresh system of relationships and flows between the key players of the beverages supply chains, in general, and of the soft drinks one, in particular. This new reality has to be hastily and accurately acknowledged by the consumers (Pamfilie and Jurconi, 2018; Teodor, et al., 2020).

A particular provision of the above-mentioned enactment has a major impact on the soft drinks producers, with regard to the mandatory rPET content: the use of rPET in the plastic bottles has to be at least 25% by 2025 and at least 30% by 2030. From the early phases of the SUP public debates, the beverages industry has raised concerns with regard to the quantitative and qualitative availability of secondary raw materials in the need to meet the above-mentioned targets. In previous works (Ilie and Jurconi, 2019) we explained that certain framework conditions should have been in place prior to the

adoption of the mandatory rPET content by the EU legislation, so that the soft drinks industry to secure access to sufficient quantities of food-grade recycled polyethylene terephthalate. In the absence of such framework conditions, the risk of plastic bottles shortage on the Internal Market remains high.

We hereby pondered the technological disruption outcome – that is, practically, a new type of plastic bottle - versus the consumers' capabilities to perceive and integrate such a transformation - one that is in line with their options for a world with less plastic (Alvarado Chacon, Brouwer and Thoden van Velzen, 2020). In order to score above consumers' perception line, the soft drinks industry need to team up with the retailers and with the governments with the goal to align public messages, to explain and to disseminate positive content on the rPET bottles, hence setting forth sustainable plans for new investment in the soft drinks packaging, job - creating and reducing the food waste and the carbon footprint.

From the industry's perspective, neither the fluctuating price of crude oil, nor the related price of the virgin PET do encourage the recycling of polyethylene terephthalate - even though the process itself is extremely sustainable: in Austria, for example, the carbon footprint of rPET is 0.45 kg CO₂-eq./kg, almost five times less than the one for virgin PET (2.15 kg CO₂-eq./kg) (ALPLA Werke, 2021).

From the consumers' standpoint, the objective reality of the mandatory rPET targets has to cope with the need of safeguarding EU's Internal Market principles, as the one of ensuring a level playing field for all types of packed and bottled products, so that the nations of the Union to benefit from the variety of goods offered by the European food and drinks industry.

From an environmental perspective, the few data available on consumers' behavior, in relation with the new types of plastic bottles, render as irrelevant, for the time being, any assumption on the littering reduction as a result of the replacement of the virgin PET with rPET (NAPCOR and The Association of Plastic Recyclers, 2016).

Materials and Methods

As a first step, we considered to examine the trends of the eco - innovation in the field of soft drinks plastic bottles and to explore - from a high-level perspective - the appetite of the soft drinks producers to adopt sustainable packaging technologies. We pointed out the key messages to accompany the rPET technology adoption to be conveyed by the soft drinks producers under the existing legislative and raw materials market constraints.

In the respect of the above, we performed an in - depth analysis of the Directive EC 2019/904, with particular regard on its provisions referring to the mandatory rPET content of the soft drinks plastic bottles, pondering their impact on the availability of the secondary raw materials and assessing the possible distortions of the EU's Internal Market that may consequently occur, resulting in a battery of communications vectors driven by a balanced system of positive and negative feed-back controllers.

We hereby produced an original overview of the voluntary pledges of the European food and beverages industry in response to the obligations provided by the Directive and in line with respective companies' sustainability targets. We determined and scaled the factors driving the ability of soft drinks companies to boost the uptake of rPET in the production of their plastic bottles, eventually stating that those factors are the positive feed-back controllers of the multi - directional communication between industry, governments and consumers (European Commission, 2018).

An array of unintended consequences of the Directive enforcement with relevant impact on packaging functionalities, environment and society has been scrutinized, as well. We took a glance over the way such consequences will affect the balance between the demand and supply of rPET in the EU (De Wilde, et al., 2013); in the proposed multi - directional model, unintended consequences act as the negative feed-back controllers of the communication process between industry, governments and consumers.

In order to design a communication model aiming to promptly and properly ensure the communication among all the parties involved in the eco - innovation of the soft drinks packaging, we mapped all the stakeholders and listed their partnership and engagement capabilities. We emphasized their particular

interests, their means of communication in accordance with their strategic goals, we draw the information flows and identified the feed – back recording mechanism. Eventually, we integrated all data into a multi – directional model, designed to communicate the eco – innovation between the key soft drinks supply chain players, buildable and expandable according to each country’s specific.

Results

The Internal Market is key for the Union’s global trading advantages and for the progress towards the Circular Economy goals. Soft drinks producers, consumers and governments have now the option to work and communicate together in a harmonized manner, ensuring the access to and the adoption of rPET technologies in the production of plastic bottles, thus turning a legal compliance matter into a public communication opportunity of the eco – innovation over the soft drinks supply chain.

1. Proposing the Key Public Messages Related to the rPET Technology Adoption

The enforcement of the provisions of SUP Directive with the goal of limiting the consumption of plastic bottles obtained from virgin PET gives concerns for the soft drinks industry; we hereby treated those concerns as threats; however, the European legislative frame is equally rich in resources for reaching the balance between business and environmental interests, so that the nations of the Union to continue to benefit from the variety of goods offered by the European food and drinks industry. we are hereby treating those resources as opportunities.

In terms of the public communication (Table no. 1), the above-mentioned threats and opportunities materialize in possible key messages with a positive or a negative feed-back effect over the process of virgin PET replacement in the plastic bottles with rPET:

Table no. 1. Key messages accompanying the rPET technology adoption by the soft drinks producers

Positive key messages	Negative key messages
The Internal Market is key for the Union’s global trading advantages and for the progress of the Circular Economy goals	Any threat on the Internal Market would have a negative effect on new investments and eco - innovation, meaning less business and jobs in Europe
The nations of the Union benefit from the variety of goods offered by the European food and drinks industry	The freedom of choice will be altered if Member States adopt unilateral implementation acts on the rPET bottles
The foodstuffs and the drinks on the European market are packaged in the same way	The free movement of the goods will be altered if Member States adopt unilateral implementation acts on the rPET bottles
Member States can derogate in order to restrict, for example, the placing of virgin PET bottles on the market	The Internal Market could be additionally altered by the derogations for virgin PET bottles enforced by some of the Member States
Smaller Member States could easily stop production of virgin PET bottles for which they have adopted restrictions	Consumers will pay the costs for altering the progress to a Circular Economy
The new production technologies allow to obtain rPET bottles that are fully compliant with EU FCM requirements	There is room for diverse interpretation of the EU norms with regard to plastic definition, leading to divergent implementation acts and norms adopted by Member States

Source: original contribution

2. Identifying the Feed-back Controllers of the Public Communication Process

Since its launch in January 2018, the Pledging Campaign launched by the Commission enrolled, among others, the key players of the European soft drinks industry, that have individually replayed to the call with voluntary commitments with regard to the recycled content for plastics packaging (Table 2). In

the proposed model, corporate voluntary commitments play the role of the positive feedback controllers, as they tend to activate those vectors between the supply chain partners that communicate engagement and focus on those areas where the soft drinks producers can make a difference.

The number and the consistency of the submitted commitments of the soft drinks supply chain indicate, on medium term, the option of the producers for circularity of the packaging, rPET included; however, certain framework conditions should have been in place prior to the adoption of the mandatory rPET content by the EU legislation, so that the soft drinks industry to secure access to sufficient quantities of food-grade recycled polyethylene terephthalate. Those framework conditions play the role of the negative feedback controllers over the communication process between stakeholders, as they tend to disengage the producers to adopt an increased rPET content in the soft drinks bottles, hence giving little substance for the multi – directional communication and leaving room for doubts, from the consumers perspective, with respect to industry’s real commitment to meet the targets imposed by the legislation or individually pledged.

Table no. 2. Feed-back controllers of the public communication process of the voluntary pledges for boosting the uptake of rPET in soft drinks bottling industry

Company	Positive feed-back controllers	Negative feed-back controllers
Coca Cola	“min. 50% rPET in soft drinks plastic bottles”	“100% of the raw materials to come from sustainable sources by 2020”
Danone	“phase 1: min. 25% of recycled content for PET phase 2: 33% of recycled content for PET”	“EU <i>End of Waste</i> criteria to stimulate secondary raw materials (SRM) markets; domestic markets to allow rPet”
Evian	“100% recycled content for PET bottles”	“pioneering partnerships to redesign its packaging, accelerate recycling initiatives and zero plastic bottle waste”
Ferrero	“10% increase of recycled plastic”	“a common and agreed approach to bioplastics along their life cycle”
Nestle	“25% recycled content for PET bottles in Europe”	n.a.
Pepsico	“increase use of recycled content in plastics”	“access to secondary raw materials required”
Mars	“utilise recycled content in plastic packaging”	“wherever possible and legal”
Mondelez	‘seeks to use recycled materials’	“where practicable, subject to food safety constraints”
Tetra Pak	“100% of all packages to be made from responsibly sourced, renewable materials”	“incentivise renewables to stimulate investment and production of bio-based plastics in Europe”
Unilever	“min. 25% recycled plastic content in packaging”	n.a.

Source: adaptation from Ilie and Jurconi, 2019

3. Mapping the Stakeholders of the rPET Adoption Public Communication Process

A distinctive number of entities (governments, political organizations and structures, EU and national regulatory bodies, business and consumers associations, individuals) could give leverage to the public

communication process of rPET adoption into the plastic bottles for the soft drinks, as shown in the Figure 1.

The European Institution have already delivered, as they have taken all the procedural and legislative steps to ensure the adoption of the Directive EC 904/2019, whose provisions have become mandatory for all soft drinks supply chain players since June, 2019.

The Presidency of the EU Commission and their key officials (state counselors, political advisors, chief of staff, head of intelligence, head of communication & protocol), as the top European administrative authority, could adapt legislative agenda, including the one referring to the rPET, upon their political priorities.

The Governments of the Member States: PM and the involved Ministers (Foreign & European Affairs, Environment, Economy, Finance), their key staff members (personal advisors, State Secretaries, GDs, national experts to the Council preparatory bodies) play an active role in transposing political priorities in public actions.

The Permanent Representation Offices of the Member States to the EU include high ranking diplomats (the Ambassador, his Deputy, COREPER coordinators, media relations officers) and operatives involved in supporting the political liaisons with the dossiers managers and public event organizers in Brussels and Luxembourg.

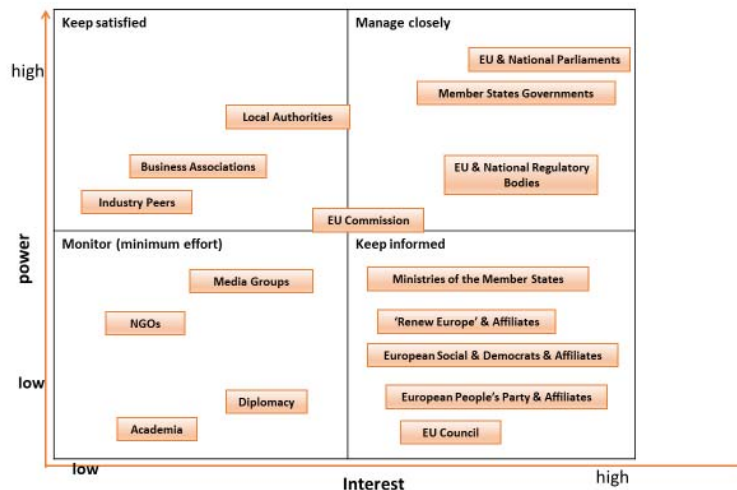


Figure 1: Stakeholders mapping of the public communication process of the rPET adoption in the soft drinks plastic bottles

source: original contribution

The Members of the European Parliament play key roles in Committees impacting the packaging and packaging waste dossiers, as the Environment, Public Health and Food Safety Committee.

The EU consultative structures of the Member States call for the national delegations' members within the European and Social Committee and the European Committee of Regions.

The Parliaments of the Member States, their leadership and the key members (political parties and political groups leaders, chairmen of Committees) usually supply key technical experts on environment matters.

The Local Authorities, consisting of local Governors and Mayors and their Councils members, do subordinate institutions whose tasks are to secure the law enforcement at any level.

The organizations for intra – communitarian development are flourishing across EU, because of their roles in the institutional team up for the packaging waste management at a local level.

The industry peers - packaging and packed goods industry horizontal suppliers and clients or waste recycling – are equally interested in the rPET case management, as are the national and European business and professional associations and the trade chambers.

The international and local media groups bring knowledge and provide distribution of the communication model.

The NGOs, the influencers & the academia are people whose civic attitude, scientific curricula and communication aptitudes qualify them as legitimate communication vectors of both consumers' and industry's interest.

4. *Phasing - in a Multi – Directional Public Communication Model for the rPET Adoption*

The objective is to enroll the stakeholders identified previously in a communication model aiming to safeguard the adoption of the rPET in the soft drinks bottles production. In order to acquire the above, we recommended the following tactical steps:

- *Phase A - the preparations:*
 - contacting and establishing relations with mapped stakeholders
 - aligning agenda, initiating and holding meetings
 - explaining responsibilities and answering all questions
- *Phase B - the alignment:*
 - exchanging technical information and proposing solutions
 - identifying and negotiating divergences
- *Phase C - the bond:*
 - building the mutual friends, enemies and neutrals list
 - enlarging the circle of trust by constantly referring others
 - organizing and attending together public events
- *Phase D - the commitment:*
 - committing mutual financial, logistic and public image resources
 - consolidating and communicating every positive outcome to the audience

The main challenge of the Phases A to D is to secure a sustainable action & communication protocol between all stakeholders, that would be affected neither by political or administrative changes, nor by replacements in stakeholders' leadership.

5. *Assessing the Engagement Capabilities of the rPET Stakeholders*

We determined that the engagement capabilities of each category of stakeholders is specific to their interest to contribute to the proposed communication model, as following:

- *Governments:* usually, the leadership reacts mainly to political and public pressure therefore is unable to enroll in changes of substance affecting their short term objectives; yet, there is a question of national reputation to deliver proper results during their mandate; hence a certain interests of being educated on the rPET packaging files could be detected; governments are the main partners for modelling the public communication on rPET adoption;
- *Politicians:* interested to enroll in projects of worth for their political plans and to become the champions of the change; high capability to convey messages thanks to their huge public exposure; great opportunity to team up in the light of any political elections; main partners for drafting bills affecting current legislation or generating new pieces;
- *Industry, peers & their organizations:* long term commitment to achieve business goals; able to shift massive financial, technical and logistic resources in order to engage and to deliver technical solutions, to enroll into partnerships; enjoys trained capabilities able to legitimately communicate their objectives and to originate public influence;

- *NGOs*: never-ending environmental activism capabilities; strong implementation partner using a mix of volunteering, national presence and solid logistic; main partner for large groups facilitation & coalition building;
- *Media groups*: the referee of the democratic game, media will sanction the faults and will award the accomplishments of all the other stakeholders; main partner for online & offline communication;
- *Think tanks & academia*: the quality influencers are the main partners for endorsing the technical, social, business, educational and financial aspects of the concept of packaging & package waste selective collection in general, and of the rPET, in particular.

Discussion

A. On the Nine Key Framework Conditions for the Voluntary Pledges on the rPET Content

The capability of the soft drinks producers to incorporate increased quantities of rPET in their bottles is determined by an array of factors, out of which just few are controllable within the supply chain. In previous works we selected and explained the influence of the nine key framework conditions modulating producers' propensity to adopt disruptive rPET technologies (Ilie and Jurconi, 2019):

1. "Safeguarding the Internal Market
2. Plastics Tax Abolition
3. Net Packaging Cost
4. Essential Requirements & Eco-modulation Consistency
5. Secondary Raw Materials Availability
6. Secondary Raw Materials Quality
7. Definition of Recycling
8. R&D Support
9. Food Contact Materials Approval Process"

We explained that these nine conditions had to be fulfilled before enrolling in any voluntary or mandatory requirements of rPET content. Their absence tends to disengage the producers to adopt an increased rPET content in the soft drinks bottles, that gives them the attribute of negative feed-back controllers within the public communication process between stakeholders.

B. On the Six Potential Unintended Consequences of a Mandatory rPET Content Target

Even though the manufacturers would like to adopt more rPET in their production process, the beverages industry has raised concerns with regard to the quantitative and qualitative availability of secondary raw materials in the need to meet the targets provided by SUP Directive. In previous works we explained that a potential mandatory requirement of rPET will disturb the market balance between the offer and the demand of recycled materials in the EU, generating the following six potential unintended consequences (Ilie and Jurconi, 2019):

1. "Prices augmentation
2. Internal Market distortions
3. Free movement of goods limitations
4. Illegal/undesirable materials
5. Blurred traceability
6. Confusions between primary and secondary materials"

We explained also how the above mentioned six unintended consequences would affect the functional properties of the packaging, but also the consumers and the environment, eventually, raising a big question mark with regard to the efficiency of any multi directional public communication process regarding the rPET adoption into the soft drinks plastic bottles at all (Ilie and Jurconi, 2019).

Conclusions

There is little public data on how to build and execute a public communication plan and even less on how to design one to communicate the eco-innovation. While googling communicating disruption, the circle of knowledge shrinks again, as there is just one reference available on the net, provided by a historical debate hosted in 2016 by Weber Shandwick, a global PR firm, on the matter of disruption theory (Weber Shandwick, 2016). Therefore, we are advancing the theoretical model herewith described, with the humble ambition of setting the ground for further debates on how, who, when, where and why to communicate the innovation, and, primarily important, to whom (Xiong, et al., 2020).

The authors opinion is that a void still exists between public and governments when it comes to communicate disruption, in general, and disruptive technologies, in particular; the industry may play a critical role in feeding the needed information to the other stakeholders in a transparent and constant way.

In our endeavor, we applied the method of a strategic communication model designed to originate public debates to the highest European level on harmonizing the environmental and economic interests, so the nations of the Union to benefit from the variety of goods offered by the European food and drinks industry.

The goal was to run a simulation of enrolling the interested parties in a communication plan aiming to safeguard the principles of the Internal Market with regard to European consumers' freedom of choice and to the free movement of the goods, in respect to Union's global trading advantages and for the progress towards the Circular Economy goals, using the rPET bottle transformation as the process trigger.

The chosen name for model is multi – directional, to emphasize its advantages in the engagement process, while running the information exchange between the identified stakeholders.

The language employed was EU institutions' idiom specific, addressing the issue of the eco -innovation in a highly sophisticated manner, combining technical and academia speech with political messaging (Tohănean, et al., 2020).

The scent is given by blending the words disruption with communication, thus projecting a respectful image of sobriety and conservatism of both our key terms.

The wow factor is the designed partnership between industry, governments, EU consumers and key circularity thinkers and doers from around the world, with proven expertise in recommending adoption strategies for disruptive technologies, as the rPET packaging.

The outcome of the implementation of the designed communication model is to strongly call on EU policy-makers to ensure the safeguard of the Internal Market for packaging and packed products and avoid fragmentation caused by national restrictions, using rPET as a case study.

The model is scalable and expandable in order to be adapted to the specific of the communication needs of any groups of stakeholders, so that all supply chain players to have it at hand while building their public affairs workplans on sustainable food packaging.

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