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NGI webinar

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Media & Content Hyper-personalisation

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Agenda

1. New European Media Initiative
2. Strategic importance
3. Enablers and Key aspects
4. Personal data management
5. Q/A

NEM Initiative: What is it ?

The NEM Initiative (New European Media Initiative) was established as one of the European Technology Platform under the Seventh Framework Program, aiming at fostering the convergence between consumer electronics, broadcasting and telecoms in order to develop the emerging business sector of networked and electronic media.

In order to respond to new needs and requirements of the Horizon 2020 program, the NEM initiative enlarged its focus towards creative industries and changed its name from Networked an Electronic Media Initiative to New European Media, dealing with Connected, Converging and Interactive Media & Creative Industries, driving the future of digital experience.

all major organisations working in the networked and electronic media area, including **content providers, creative industries, broadcasters, network equipment manufacturers, network operators and service providers, academia, standardisation bodies and government institutions.**

988 members from **94** countries

Scene setting

Hyper-personalization is an advanced and real-time **customization of offerings**, content and customer experience at an individual level.

Hyper-personalization considers each person as a **unique individual**. Each individual's demands, needs and constraints for potential content and services should be taken into account before providing a tailor-made solution to that person

Hyper-personalization leverages **Big Data technologies** to deliver such tailor-made solutions in real time and also **Artificial Intelligence** that should help to provide recommendation in real time

Strategic importance of hyper-personalisation

The European society is based on diversity and only by giving a broad and flexible response, also thanks to the hyper-personalization paradigm, this diversity will be resource and not restriction.

Hyper-personalization technology is called to close the gap between providers' business needs and consumers' desires, allowing consumers to enjoy an increasing range of products while service providers battle against the fragmentation of retailing and media across multiple channels and platforms.

Enablers and Key aspects

NEM has identified a number of incentives and technologies such as:

- User behaviour capturing
- Novel recommendation system
- Identity management
- Big Data technologies
- Artificial intelligence
- Privacy
- Accessibility

Enablers and Key aspects : User behaviour capturing

Improvement in the personalization of services goes through the development and consolidation of models of information capture of user behaviour. Nowadays, this has been often done by the acquisition of **explicit information** (User preferences and interests).

Issues of such a method:

- users are not always ready to express their preferences, as they may be conditioned by external factors
- user's continuous updating of preferences can become tedious and provoke inconsistency,

For this reason, systems mostly function by capturing **implicit information** that comes from all those observable behaviours that can be collected by a system.

➔ The current trend is to combine the two techniques, using both explicit and implicit information.

Enablers and Key aspects : User behaviour capturing

Good user behaviour information capturing and management go through:

- **Transparency for the user:** enabling users to comprehend how the personalization of the systems operates and even allowing them to scrutinize and control their models can promote user engagement, self-awareness, trust and confidence
- **Objectivity:** By performing an invisible capturing and modelling for the user, it could only alter the authentic information by modifying its behavioural habits
- **Contextualization:** Fine tuning of user information should integrate contextual information as geolocation, time slot, mood,... so that real-time data could be combined with an in-depth analysis of customer behaviour

Additionally, new trends such like those incorporating psychology-based analysis and integrating information on the quality of the experience represent new opportunities in this area.

Enablers and Key aspects : Novel recommendation system

A recommendation is based on the combination of knowledge that is available from both the content, product, service to be recommended, and the user to whom it is recommended.

One of the main constraints of the recommendation systems is their dependence on the application scenario.

Four large blocks make up the biggest challenges for the recommendation systems:

1. Acquisition and modelling user information
2. Acquiring and modelling content information
3. Improved efficiency and accuracy of recommendation algorithms
4. Presentation of results and generation of confidence in the user

Enablers and Key aspects : Identity management

Hyper-personalization systems need to reach the same customer across different channels and devices to provide a seamless, fully-connected cross-device customer experience. This issue that tackles cross-device identification and identity management uses to be closely related to the digital identity in the network.

The solution should include not only complete, standards compliant identity and access management function but should also include a group management and sharing capability, allowing users to create groups (e.g. families), roles and relationships (e.g. mother of), invite users, delegate and revoke access at a granular level to their accounts and services

Enablers and Key aspects : Big Data technologies

Hyper-personalization requires to leverage a huge amount of high-quality and relevant data. The volume of data has significantly increased, with datasets more detailed and more diverse.

Large-scale data collection combined with new methodologies for data processing and analysis, even in real-time, has enabled systems to build new models, with an added predictive capability. The **velocity** of data collection and processing enables to perform real-time analyses and supports targeting that can be updated depending on the customer's context and environment, in line with the principle of hyper-contextualization

Enablers and Key aspects : Artificial intelligence

Artificial intelligence includes time-tested technologies as text analytics, natural language understanding and processing, semantic, machine learning, and other which are relatively new such as deep learning based on neural networks

Artificial intelligence together with big data technologies could transform the relationship between people on one side and systems and machines on another, improving how we live and work as individuals and in a society. Advanced and integrated analytics will run on large data sets, updating models and algorithms with data in real-time, and combining data from different sources in order to deliver new insights for hyper-personalized services

Enablers and Key aspects : Privacy

Through these networks and devices, large amounts of data are generated and transmitted whose confidentiality, authenticity and integrity can be exposed and escape from the control of their owners, which would endanger information, privacy and, in some cases, the physical integrity and patrimony of the people. Thus, one of the most important challenges facing the new technological scenarios is the protection of users' privacy and personal data.

It is necessary to support user engagement by keeping them in the loop and enabling them to understand, engage with personalization process.

Enablers and Key aspects : Accessibility

It is important to support the promotion of accessibility across Europe in digital single market of media services through hyper-personalization and adoption of principles “Designed-for-All”.

In order to maximise the usage of media services by persons with some functional limitations, including persons with disabilities, the service should be available by more than one sensory channel and should be accessible in a consistent and adequate way for users’ perception, operation and understanding, including the adaptability of content presentation and interaction, when necessary providing an accessible electronic alternative and or augmentation.

Personal data management

Personal data could be handled in 2 ways:

1/ It is under the end user responsibility: The user profile is managed by the user himself and the user should offer an access to it to authorised service providers on demand

2/ It is under the service provider responsibility: The user profile is developed by each service provider (there will be several profile for a single user) and should be validated by end users.

NEM is in favour of scenario 1 as far as a regulation exists and check the implementation of it. There is a need to be able to separate user content and data from internet based software and services

➔ Service portability and data decoupling should be the must

Conclusion

The NEM position paper on **hyper-personalization** will consider the different aspects of maximizing opportunities to customize content to consistently target the right audience throughout the customer lifecycle. Thus it will create meaningful connections and drive engagement among audience. It can be applied to most of the media markets, and it also encompasses the ATAWAD (any time, anywhere, any device) concept which provides to the end user the best format according to the device used.

However, personal data protection is one of the key issue that need to be fixed.

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