The Return of Content Analysis: A New Mixed Horizon to the Study of Digital Environment in the Covid-19 Disease

The digital era and the boom of social, user-generated and freely available and usable content on the Net has brought to the fore a classic technique, accused too often of being highly subjective and requiring a large amount of intellectual work. This is Content Analysis which has seen an unprecedented explosion in recent years. In addition to the incessant flow, speed of diffusion and high volume of today’s big data, the attention of social researchers – as well as of anyone interested in drawing information from this enormous proliferation of data – is shifting to new possibilities. Among these we find that of having a notion of the contents conveyed, of the feelings expressed, of the polarities of big data, but also the chance to extract other information that indirectly speaks of the tastes, opinions, beliefs and transformations behind the behavior of the users of the Net. In fact, secondary data available on the Net, collectable through sophisticated query systems with API or with web scraping software, make it possible to accumulate huge amounts of this dense social data, from which it is possible to try to extract not only trends but real knowledge, in a quantitative as well as in a qualitative manner. This enriches the value of the results that can be produced with Content Analysis and limits, until disappearing, all the critical horizons that have classically left this technique in the shadows, allowing it to find new applicable dignity, validity and reliability (Hamad et al., 2016). In order to explain this evidence, the contribution that we will present attempts to prove that the return of Content Analysis techniques is not only due to the change in the scenario and in the data analyzed, but also to the ability of this technique to innovate and evolve, leading to open analytical perspectives beyond contingent changes. This can be demonstrated through the application of digital mixed content analysis to the recent Covid-19 outbreak and its development of the perception of the Italian population on a specific digital social platform, Twitter.

Keywords: Digital Mixed Content Analysis Model, digital platform social data, Twitter, Italy, coronavirus.

Introduction

Complex social phenomena that transit on the Net could be investigated with a technique that has found a renewed place on the social research scene just as big data was making its weight felt: Content Analysis. These phenomena require an epistemological and ontological translation into a multi-comprehensive approach like the Mixed Methods one. This means fitting into the debate open up by Hesse-Biber e Johnson (2013), for which «The exponential growth of “big data”, arising from newly emergent user-generated and streaming digital data from networking sites such as Twitter and Facebook, will place pressures on MM researchers to transform traditional modes of collecting and analyzing data generated from these sites. […] In the coming years, big data methods and analytics may also drive and challenge MM researchers to rethink and innovate and produce new paradigmatic perspectives and research designs and structures. In turn,
MM perspectives and praxis can provide models for interpreting and deriving critical insights that may give a more complex understanding of big data that can bring a set of new questions and understanding to the trending data currently extracted from user-generated social networking sites (2013, 107).

This is the reason why new applications, new software and new algorithms are being developed, allowing the extraction of the knowledge nested into digital data. All the characteristics of Content Analysis in its qualitative (Shreier, 2012) and quantitative (from the dawn, Berelson, 1952, to the present day, Riff et al., 2019) versions, the contaminations with text mining techniques and the continuous interconnections with network analysis or geographical techniques, are being recovered. This brings to the attention of the social researcher the continuous evolution of the cognitive horizon which allows access to this new digital frontier of Content Analysis, a frontier that has led to the breaking down of the boundaries between qualitative and quantitative approaches, as well as among different disciplines, leading to the birth of forced hybridizations.

It was precisely from these considerations that, given the emergency generated by the spread of Covid-19, with this study we wanted to focus on social data to investigate the online perception of one of the populations most seriously affected by this catastrophe: the Italians. Furthermore, we will apply an innovative model devoted to investigating the multivariate nature of social data: a mixed content analysis model born from the reflections in this paper.

The structure of the essay provides the first two paragraphs dedicated to literature review which describes the evolution of content analysis, especially in relation to mixed methods and the mix approach in the digital content analysis. The third deals with the methodology, illustrating the analysis techniques and the criteria for the construction of the dataset. The fourth presents the case study of COVID-19 pandemic disease in Italy. The fifth and sixth paragraphs concern the results: the fifth based on a combination of a Lexical Correspondence Analysis (LCA) and a Cluster Analysis (CA) about Covid-19 Italian’s perception on Twitter, then the sixth relates to qualitative in-depth analysis of topic and social narratives. The paper ends with a paragraph discussing the results.

**Literature Review**

*Content Analysis: developments and new scenarios*

Previously used essentially for military purposes, content analysis assumed the status of a research tool in the 1950s after the publication of fundamental texts such as those by Lasswell (1949) and Berelson (1952). Content analysis has been defined as a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Berelson, 1952, Krippendorff 2018, Weber, 1990).
According to Krippendorf (2018, 13) content analysis is a research technique for making replicable and valid inferences from texts to the contexts of their use. Content Analysis enabled researchers to sift through large volumes of data with relative ease in a systematic fashion (Stemler, 2000). At the same time, the need to face the challenges posed by «old and new» kinds of data retrievable from the web has prompted those who move within the approach to borrow analysis techniques from other disciplines. Therefore, traditional techniques are being accompanied by non-traditional techniques (Herring, 2009).

The recent debate on Mixed Methods (Tashakkori and Creswell, 2007) which aims to integrate qualitative and quantitative research within an abductive logic, jointly data- and conceptual-driven, could find fertile ground in content analysis especially in its digital version, for several reasons. According to Cipriani (2013), talking about the possibility of using Mixed Methods means referring to the «possibility of adapting and coordinating between them more investigation techniques, more types of elementary information, or different paradigms or approaches of a theoretical or methodological nature» (2013, 272).

There are many reasons to determine the possible success of this emerging paradigm in content analysis. First of all, the crossing of the dichotomy is directly and indirectly supported by perspectives such as those of «live sociology» (Back and Puwar, 2012) and of «punk sociology» (Beer, 2014). They try to imagine, and direct to at the same time, the development of sociology in the digital world through new forms, also heterodox, with respect to consolidated approaches. In practice, this would be favored by low costs, in terms of both money and time.

Furthermore, in a phase in which epistemologically naive approaches (i.e. data-driven) are being asserted, it is important for researchers to affirm their role by emphasizing the importance of facing a cognitive problem through complex approaches capable of giving better answers or to put it to better understand a situation (Creswell 1999). These issues will be privileged in the next paragraph, dedicated to mix approach in Content Analysis.

The mixed approach in digital content analysis

Mixed Methods research centers around researchers being able to collect multiple data using different strategies, approaches and methods. The desired results of this mixture have the characteristic of being more than the simple combining of the single methods in order to generate grander and more integrated research outcomes (Orina, et al., 2015). Many fields of research, with their characterizing methods and techniques, have already experienced the potentiality of the combination of qualitative and qualitative research approaches to pursue the guiding methodological principle of integration. Nowadays, it is not only a question of methodological principle that addresses social researchers, but also the ever-growing relevance of the kind of data used, the information contained therein, the possible
multilayers of reality which they lead to, and the undeniable need for integration between these pieces of reality to build ever more complete paths of knowledge.

Using content analysis in the digital era in order to analyze digital content, such as that on social media, means being faced with old and new challenges. In the current research process, digital content analysis researchers must: formulate their cognitive questions and make the purposes of their analysis explicit; identify the source of the data and contents that they want to analyze; and then select them consistently to the delineated path. The analysis procedures, quantitative or qualitative or both, that they decide to adopt will depend on the hegemony of the research question (mixed methods perspective), but above all on the hegemony of the medium that conveys the contents taken into analysis (digital methods perspective). Regardless of these considerations, the content analysis process will consist of the coding of raw data according to a classification scheme. This scheme, on the one hand, will, from the quantitative point of view, claim to extend and generalize the results. From a qualitative point of view, on the other hand, it will attempt to analyze the considered content more in depth. However, thinking that a cognitive question on complex data such as the digital platform social data can involve only one of these sides becomes an understatement. The Mixed Methods perspective is not only necessary, but in a certain sense mandatory.

In this regard, it is sufficient to think that already Holsti (1969), as well as the more recently retrieved claims by Schreier (2012) or Krippendorff (2018), affirmed that qualitative and quantitative content analysis are not discrete classifications, but rather fall along a continuum, a notion also used by Teedlie, and Tashakköri (2011) to define the new horizon for social research methods in the light of the third approach, the mixed one. Stressing the approach along this continuum allows researchers to extract greater opportunities to gain insight into the meaning of data. Bryman (2012), on this possibility of moving back and forth in the approach, states that, by definition, «content analysis is a research approach that can be situated at the intersection of quantitative and qualitative methods, a place where both methods can meet and that quantifies and qualifies the manifest and latent meanings of the data» (Hamad, 2016). Combining this understanding of content analysis with a solid mixed-methods design could allow the researchers to reach the maximum result from the massive growth of digital texts and multimedia data.

Of course, it is true that for researchers using data from social media platforms (e.g., Facebook, Twitter, LinkedIn or similar) there are few guidelines for the collection, analysis, and evaluation of the various types of data.
Methodology

The cognitive interest that moves this study, in addition to demonstrating the return of Content Analysis in the digital environment, can be summarized in three specific research questions:

1) how the spread of coronavirus direct, polarize and construct the perception of the phenomenon faced by the Italian users of Twitter?

2) who actors have been having the most pervasive communication impacting on social perception?

3) which is the reasoning that built the social narrative of coronavirus on this social network? With the aim of finding adequate answers to questions so closely related the one each other, as anticipated, is a mixed content analysis design.

The research design at the basis of this proposal can be identified in sequential nested model by Creswell and Plano Clark (2017). This model, which combines data collection and analysis of a secondary set of qualitative data in a traditional quantitative research design, has the main objective of strengthening the results obtained by integrating them downstream into the process.

It consists of a first quantitative extension phase with the application of an analysis on latency, or the Lexical Correspondences Analysis (LCA) aimed at pulling out of the original set of data the semantic dimensions of synthesis that can, at a later stage, lead to the application of a Cluster Analysis (CA) with T-Lab software aimed at identifying perception profiles of social users on the risk of coronavirus infection. Finally, a qualitative follow-up will help us to develop these results building a conceptual map of actors, thematic areas, communication dimensions, and social narratives on the Covid-19 Italian’s perception.

The results of first phase is used to extract the axes or latent dimensions by LCA as the basis for a typology within which the groups obtained with the cluster analysis are projected as useful attributes for delineating the different emerging profiles. This new distribution of the emerging perception is also enriched by the kind of involved actors and their importance by numbers of followers, and the level of sharing and engagement generated by the analyzed materials.

This technique also allows us to extract the most representative set of tweets for each group or cluster retraced with the CA, an extraction that was used to implement a second in-depth qualitative phase of analysis within which we apply a thematic analysis focused on the hermeneutic interpretation of each set of tweets by theme in order to detect new information about the way in which the main differences in communication could be distinguished, as well as kinds and styles of communication, polarity, intensity and direction of the traced perceptions. For each profile deemed relevant, 100 more significant tweets will be extracted and an in-depth treatment will be started on them, which provides for the
classification of the contents with the help of the NVivo software and the
creation of new attributes to be projected in the classification scheme that
gradually takes form with the integrated results of the different quantitative
and qualitative phases.
Furthermore, with NVIVO it will be possible to reconstruct the maps of
the emerging perception controlled on the basis of the arguments and the
relationships that are generated among all these elements on the groups
brought to the attention from quantitative analysis and this will make it
possible to add to the product scheme also a relational component useful for
understanding future developments and trend.
Relates to dataset building, the hashtag extraction was supported by R
eject tweet packages (rtweet) to locate current trends in digital content
analysis on one of the most popular social media networks, Twitter, that
made use of API to collect data. The data collection involved all the tweets
about Covid-19 in Italian. It covered the period from March 5-15, when
several important decisions relating to Covid-19 mitigation were made
(DPCM 4 March 2020). Given the extension of the corpus and the limits
relating to the API’s Twitter (max 18,000 tweets per day), several daily
extractions were carried out. The extraction keys were based on six
hashtags, i.e. those that were potential or effective topic trends for the period
in question:

- #coronavirusitalia and #coronavirus identify the main theme and, it
is assumed, index a more popular and generalist communication on
the theme (we could define it knowledge-oriented);
- #iorestoacas, #fermiamoloinsieme and #italiazonaprotetta could
aggregate a communication more interested in problem solving, i.e.
about measures to reduce the virus risk (so this hashtag group we
could call problem solving – oriented).

The final corpus consists of about two millions of tweets (including
retweets). To facilitate mixed design, it was decided to work on a more
limited sample of 10,000 tweets (without the retweets), respecting the
proportions related to: Tweet daily number and Hashtag groups.
The daily tweet percentages suggest that from the first day of extraction
until March 11 there was a progressive increase in ‘Covid’ tweets(fig.1). The
most active days were those from 8 to 11 (on average with more than
10% of the daily tweets). The high number of tweets is plausibly connected
to the implementation of important lockdown orders in Italy, first in the
North and then throughout the country. March 11 (after Italy lockdown) was
in fact the day with the most tweets extracted (just over 13% of the entire
body). However, there was a slightly decreasing trend after that date.
The Case Background – COVID 19 Pandemic disease

A new coronavirus (COVID-19) was identified in Wuhan, China, in December 2019, declared to be a Public Health Emergency of International Concern on 30 January 2020, and recognized as a pandemic by the World Health Organization on 11 March 2020.

The Italian coronavirus cases surged from hundreds to thousands within two weeks, from a few hundred in the third week of February to over 3,000 in the first week of March, marking the biggest coronavirus outbreak outside Asia (only China and neighboring South Korea have had more cases). The infections in Northern Italy have since then been rising and many other countries in Asia, the Americas, and Europe have traced their local cases to Italy.

On March 8, the Italian government announced the lockdown of 11 Italian towns identified as the worst affected, including ten in Lombardy and one in Veneto (DPCM 08 March 2020). Within two days, the quarantine was extended throughout Italy (iorestoacasa decree) as COVID-19 cases were detected across the country. The quarantine period will depend upon how soon the number of new cases and deaths will decline. Italy is the only country that has announced a nationwide lockdown since the Wuhan coronavirus outbreak.

In such a critical context, models of crisis and emergency risk communication (Beck, 2000; Napoli, 2007; Reynolds and W. Seeger, 2005; Renn, 1992) suggest that is crucial to understand the risk perception of the
population and the sources of information that they trust to enable effective communication.

Although international and national institutional actors are attempting to plan communication strategies for the correct information to mitigate disease, there is a high risk of a spread of fake news, overflow and bad information, especially that shared on the main social networks (Vaezi and Javanmard, 2020). Rumors and misinformation can undermine many public health actions and should be debunked effectively (Schmid and Betsch, 2020).

In our case, the relevant hypothesis is that the spread of information through different institutional or non-institutional sources contributes to polarizing Italian user perceptions about the emergency, from excessive fear and concern to a total lack of interest.

Therefore, it is interesting to construct the main semantic categories of the perception and representation of the disease. In this way, it will also be possible to consider any relationship between the epidemic outbreak and the change in people’s perception and feelings to try to improve institutional communication and safety-oriented policies.

Findings/Results

The quantitative multidimensional exploration of the Covid-19 Italian’s perception on Twitter

In this paragraph a multidimensional analysis based on a combination of a Lexical Correspondence Analysis (LCA) and a Cluster Analysis (CA) (Benzecri, 1984; Lebart et. al., 1997; Greenacre, 1984) was implemented. These are two techniques used to reduce the space of mining contained in large sets of textual data as well as the dataset that we used for our analysis.

LCA, like all factorial analysis techniques, aims to extract new variables from the original matrix in order to summarize the information it contains. To understand which patterns, represent the extracted factors it is necessary to understand which modalities of the variables/lemmas enriched by mining these factors in order to identify the concepts that account for the variability that they reproduced. It is for this particular characteristic of the used technique that we are able to extract two new synthetic dimensions of mining that allow us to interpret the differences among the analysed content. The summary of the results of the LCA is achieved by performing the CA simultaneously, or on the new extracted variables. This technique regroups homogeneous elements within a set of data. In our case, CA will serve to group tweets characterized by a similar perception expressed with the use of similar words. These perceptions will be identified thanks to the mining evidence that emerges from the LCA.

As just said, the first result obtained with the application of the LCA is the delineation of two main synthetic dimensions of mining called factors. These factors can be crossed and used to build a new space of mining
generated by this crossing. Figure 2 shows the crossing of these new
dimensions, the meaning of which is built in the attraction and repulsion
relationships among the active variables used for this analysis (type of user
who posts the tweets, day on which they post and time slot and lemmas
coming from the tweets text) that we had use to describing the synthetized
mining found on the new generated factors. Moreover, on the obtained
factorial plan, there were also projected the cluster that we obtain through
the application of a further statistical analysis on this dataset, the CA, that
we will describe below.

The first factor is related to the opposition between the private and
public sphere used as direction of the expressed perception in the analysed
discourses. On the positive semi-axis, we will find tweets mainly connected
to the individual and private sphere. Here we have lemmas such as aperitif,
Netflix, home, and boring, that precisely describe individual experience.
While, on the semi-negative axis we find the terms health, Companies,
OMS, that refer to the public sphere. The location of user types is decisive.
The common user addresses the private sphere while all other users and, in
particular political groups or official and administrative bodies, address the
public one.

The second dimension we found an opposition among the focus of the
constructed discourses among the tweets. On the semi-negative axis, we
could find tweets that refer to daily limitations, medical issues, and social
measures on the semi-negative axis. Here we have terms such as
responsibility, awareness and running away. On the positive semi-axis, there
are tweets relate to health service support and communication about the
health emergency. The lemmas that we find here are containment of the
Coronavirus, order, Civil protection, and measure. For this particular
distribution, the semi-negative axis seems to refer to the many areas affected
by the pandemic and therefore to the social emergency, those on the semi-
positive axis seem to have as their central focus only the health emergency.
Health and social therefore are the semantic poles of the second factor
which is related to the type of emergency.
These reflections lead us to the question: what are the emerging perceptions regarding the experience induced by the Coronavirus emergency in the analysed corpus? We will try to answer this question by combining the evidence just discussed with the results of the cluster analysis shown in Figure 2. There are five groups extracted from the cluster and each one is characterized by a specific perception of the pandemic that derives from the collectively constructed narration by Twitter users in the first ten days of national lockdown.

The first cluster is located near the centre of the plane, collecting a very high part of the variability of the opinions expressed, but precisely for this reason also more common. It is not a coincidence that the characterizing type of user is the common one who focuses on very different and seamless aspects. The willing to describe and understand what is happening (with words like understand, search, see) as well as the narration of daily practices (referring to shopping, instantgram reports, etc.). This represent the report of the daily expediens to manage the individual quarantine, and, at the same time they also open to the sense of collective experience for which the motto ‘physically distant but close in experience and hopes’ holds true, thus also recovering the guidelines of politicians and other great actors who tend to want to give off an aura of relaxation in the general experience. The name that can be attributed to this group is that of perception in tension between the most intimate and individual dimension and openness to collective experience.

In the second group which is at the crossroads between a dimension tending to collective-public openness and a propensity towards emphasizing the discourse focused on the health emergency, we find the users to be the
local and national political-administrative class, the official information and the top users thus defined for their wide following. The tweets here are the ones with the highest resonance and are mostly centered around a popular narrative. The words relating to this group refer to the multiple aspects of the epidemic crisis: to the actors (such as civil protection, local political actors, institutions, etc.) to the measures (with the use of the words ordinance, measure, closure) and to the consequences on the population (such as deaths, isolation, therapy). This is a complex narrative that touches various key points of this pandemic precisely because it is the prerogative of the users deemed the most influential with afternoon messages that coincide with the circulation of daily update bulletins. It follows that the emerging type can be defined as holistic perception.

The third group is explicitly referring to the need of support to the healthcare system with words that recall support, hospital, medical staff. The reconstructed narrative is based on informed opinions about the emergency experienced from a healthcare point of view and a more individual concern weighs not insignificantly. The high information content of these tweets is also motivated by the fact that they are mainly from users who are believed to be the influencers and therefore able to act on the construction of individual perception starting from the conscious restructuring of the pandemic narration. The result is a rationalist and consciously alarmist perception.

The fourth group is the one in which a strongly self-centred perception prevails and is in fact moved to the more private and individual side of the first constructed dimension. Here we find the tweets that lead back to the effects on the private sphere of the pandemic. The type of user close to this group is once again the common user who launches a narration focused on everyday things (Netflix, aperitive), the experience of quarantine (boring, new habits, new way of working at home), the dimension of prayer and recrimination (awareness, but also run away, selfishness). These are mostly tweeted in the evening and at night, leaving a glimpse of a search for greater intimacy also in a digital dimension of communication and interpersonal sharing.

The fifth cluster mostly focused on more general medical emergency issues and technical medical issues. Mainly they are tweeted in the morning as they process, metabolize, and condense the updates released the previous day with the expectations and new ideas for pandemic management in the new day. The result is a pro-active soothing perception in risk management.

Furthermore, the division into five groups was functional to pave the way for the development of the qualitative part of this study. For each of the five groups, after identifying the posts that make them up, the most representative 100 posts per group were extracted and, on these, a qualitative analysis with NVivo was conducted on the emerging themes and on the social narratives that we will present below.
The qualitative in-depth analysis of topic and social narratives of the Covid-19 Italian’s perception on Twitter

If in the previous paragraph we have dealt with the reduction of the semantic dimensions contained in the analyzed dataset, instead this paragraph will be dedicated to examining the emerging meanings in these semantic dimensions. This allows us to extract new information about the way in which to distinguish the main differences in the points made by users and emerging themes detectable from the set of analyzed tweets. Jointly with this, we will look at differences in the building of social narratives that come out from changes in term of communication type and style, sentiment polarities, intensity, and direction of the expressed perceptions.

In order to do that, we apply a hermeneutic analysis starting from the classification made possible thanks to the obtained axes or synthetic dimensions of mining generated with the LCA. These dimensions contemplate a first opposition among posts devoted to highlight the private or the public sphere, at we give also a connotation as individual or collective horizon in perceived the spreading of the pandemic, and a second opposition among the importance assigned to the social or health dimension of the emergency. To arrive to the profiling of the thematic areas and to the type of social narrative traceable among the analyzed short texts, we also considered a series of other dimensions of whom is possible to detect differences or graduations in the way in which these emerge from the texts.

The first kind of considered differences stay in the primary type of communication which gives an impression to the analyzed post especially by highlighting the kind of producer of the message. Most posts could be assigned to an interpersonal communication generally conducted by ordinary people who give an intimate and emotional connotation to the spread messages. To the opposite side, another good part of posts can be attributed to the public and institutional communication of which the main producers are the institutions, giving the messages an openness to the collective and the possibility of keeping together the attention focused on very different spheres involved in the pandemic. This openness and dynamic are also attributable to another kind of detected communication, the political one, used by politicians and local administrators that at the same time sometimes overlap the intimate and emotional connotation of the interpersonal communication. The last difference could be traced in the tecno-scientific communication mainly the prerogative of scientists, technicians and experts both in health and in socio-economic measures aimed at curbing the crisis connected to the spread of the pandemic. It follows that these types can be positioned along the continuum between private/individual and public/collective spheres. Therefore, we start from interpersonal communication until we gradually open up to different gradations of collectivity and inclusiveness. Still, along this dimension another continuum is stressed, the one that has the purposes of the type of communication as extreme, on the one hand aimed at the maximum
emotional and empathic involvement, on the other hand aimed at the maximum rational and conscious involvement.

Graphically, we could represent that as follow:

Figure 3. Style, type, and purposes of communication.

Source: our elaboration.

However, the analyzed posts can also be distinguished on the basis of the polarity of sentiment expressed. Although it is possible to identify the extremes of negative and positive, along this dimension we are not faced with different expressed gradations, but with different combinations of intensities in which either polarization is totally canceled, and therefore they are defined as neutral, or the polarities combine with each other, we will therefore define them mixed. In the text analyzed, if we could assign the neutrality connotation to tecno-scientific and public and institutional communications which, on the other hand, are characterized by typical traits of disclosure and information in a constructive and proactive prospective, the mixed connotation is generally assign to public and institutional communication that share the same traits, who neither wants to be an alarmist nor an optimist communication, while the extremes of positive and negative are found in the styles of political and interpersonal communication, deliberately more marked and polarized than the other types of communication.

Following the generated continua, another one could be produced:

Figure 4. Sentiment polarities.

Source: our elaboration.
For what concern the direction of the expressed perception, a continuum could be identified in the projection made in the discourses in term of referring to past, present or future. The reference to the past is more typical of technical-scientific and institutional discourse, aimed at a comparison between what happens in the present and how things have been dealt with and managed in the past. But it is also a typical modality of interpersonal discourse, as it conveys the perception of the present to an anchorage with the past and to that refined return to normality that is typical of the past. Experts, institutions and politicians refer to the present to comment on measures and situations, but also ordinary people in concentrating the narratives on how the pandemic is experienced here and now. On the other hand, if scientists and institutions look with analytical rationality, politicians and ordinary people project hopes and expectations on it.

The same trend holds the focus to which the discussion refers and highlighted as the second dimension of LCA synthesis: the focus on the social or health dimension of the emergency. Whether they are ordinary people, politicians, institutions or experts/scientists, each sphere touched by the emergency is metabolized and returned in the narratives of all the actors involved in different ways and with different intensities. Therefore, unlike the previous ones, these dimensions cannot be stretched along a continuum, but rather belongs to the type of argument treated. And this opens our qualitative analysis to the identification of the thematic areas connected to the characterizations of the discourses and narratives just analyzed.

The main thematic area that could be tracked in the tecno-scientific communication are: Public communication on health emergency, Medical issues and Informed opinion. All belonging to the health emergency especially in its impacts on population. The aim is the production and the spread of knowledge among all sectors of society.

The thematic area more connected to the public and institutional communication are: Institutional and digital communication, National measures, Measures taken for working, smart working and income, and Reflections and comparisons with other countries and risk management plans. The topics run among social and health emergency concerns. The main aims are seeking answers, reasoning about future impacts and activate awareness and responsibility in a population that need to be more informed and adequately trained.

The political communication thematic areas, instead, are: Economic and health concerns and hopes, Social and political addresses after pandemic, and national sentiment. Also in this kind of communication the topics run among social and health emergency concerns. But, this time, the main aims are to limit the damage, to active involvement due to the weight of the situation experienced and to growing a moderate confident in the future.

More determinant in the interpersonal communication are two kind of thematic areas. One, more self-centered, the other more collective oriented. In the first falls: Daily limitations, Common sense, Losses and dangers, New
and old habits, Quarantine, prayers and recriminations, Epicenter of the pandemic. These are more recriminatory, outburst and negative discourses, more passive, characterized by the terror for the unknown, where the citizens are drifting at the mercy of events. Instead, in the second falls: National resilience, Civic sense and information, Health service support, Sharing daily things. These are proactive, support and positive discourses in which it is possible to glimpse an address for the way out. Here the discourses are focused on contingent activities as well as on the future perspectives projected towards returning to normal, focused on the understanding and respect for the rules imposed in a moratorium but proactive way were determinant are the dimensions of solidarity and support.

First of project all these characterizations in a general scheme of classification suitable for integrating all the results obtained from the quantitative and qualitative phases of analyzes, now we are able to synthesize in a conceptual maps the relationships find among all the recalled dimensions.
Figure 5. Conceptual map of actors, thematic areas, communication dimensions, and social narratives on the Covid-19 Italian’s perception.

Source: our elaboration with NVivo software.
Discussion and Conclusion

The last step that remains to be done in this analysis involves the integration of the results obtained. With the quantitative procedures, the synthetic dimensions of meaning traced with the application of the LCA have been identified. In order to create a basis for integration, a space of attributes was developed (for example of the conceptual matrices of Calise and Lowi - 2010) that crosses these two dimensions, and on this the other elements traced with the others have been projected quantitative and qualitative analyses (see fig. 6).

The horizontal axis takes up the contrast between the directions and the projections of the discourse on the public/collective sphere on one side and on the private/individual sphere on the other. Instead, the vertical axis represents the opposition on the focus of the speeches, on the one hand on the social emergency and on the other on the health emergency. Summarized in this way the terms of the speeches, it is possible to understand which are the prevailing narratives for each quadrant obtained using as attributes both the groups of perceptions elaborated with the CA and the elements of the construction of the narratives according to the actors who produce them.

In the upper left quadrant where there is a focus on health emergency with prevalent openness to the public sphere, the prevalent narrative is the collective and inclusive narrative, as emerged during the in-depth analysis of the issues. In this space of meaning two groups of actors with their perceptions can find space. Politicians with their proposal for a predominantly holistic perception, but also ordinary people when developing their discourse collectively orienting it towards a corporate perception.

In the upper right quadrant, which sees the cross between a focus on the health emergency, this time addressing a private and individual sphere, the prevailing narrative is the rationalist and conscious one. In this space of meaning we find the scientists who propose an informed perception and the institutions that propose, instead, a responsible perception.

In the lower right quadrant born from the cross between a focus on the social emergency and a speech oriented to the private/individual sphere, we find a predominantly intimate and emotional narrative that is the prerogative of two groups: the politicians who propose themselves as representatives of the people offer an empathic perception with each individual, and ordinary people who instead give the most intimate expression of their experience by presenting a self-centred perception.

In the lower left quadrant that crosses, once again, a focus on the social emergency but this time with openness to the public and collective sphere, a constructivist narrative prevails. The groups that fall into it are the scientists mainly with the talks focused on a pro-active perception in the resolution of the emergency, and the institutions that offer reasoning and delineation of future scenarios through a comparative perception with other countries, situations and types of emergencies.
Figure 6. Integrated general model of classification in the Covid-19 Italian’s perception.
(on the axes the synthetic dimensions that addresses social discourses, in the extreme rectangles the type of narrative, into the quadrants the main actors with their perceptions developed in every specific attribute space)

Collective and inclusive narrative

Health emergency

Rationalist and conscious narrative

Public/Collective orientation

perception in tension

Private/Individual orientation

Constructivist narrative

Social emergency

Intimate and emotional narrative

Politicians: Holistic perception

Ordinary people: Corporate perception

Scientists: Informed perception

Institutions: Responsible perception

Institutions: Comparative perception

Scientists: Pro-active perception

Politicians: Empathic perception

Ordinary people: Self-centred perception

Source: our elaboration.

It is necessary to reflect on many points in order to validate the proposed framework, however it is assessable here for its power of theoretical synthesis to restore the vastness of the results in extension and in-depth – qualitative and quantitative – produced for this study. In particular, we will show this result as a way of integration and visualization of results coming from a sequential nested mixed content analysis design, capable to accommodate qualitative and quantitative outcomes and to allow a certain order in the reasoning and interpretation of the – almost always complex – phenomenon chosen as a case study.

References


