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A Sentiment Analysis of Internet Users' Perception On Economic Growth And Quality Of Life in Italy



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Webresearch.it is a market research company based in Italy. Its expertise lies in quali-quantitative research, especially in the use of statistical, semantic, semiotic, heuristic and psychometric methodologies for the collection and analysis of big data.

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INTRODUCTION

Over the years, we have witnessed a rise in the number of initiatives aimed at promoting the use of well-being indicators in policymaking and increasing awareness of the shortcomings of economic growth.

Many international organizations, think-tanks and scholars have long devoted their time to the development and promotion of indicators or composite indices of well-being which could be either used to complement or substitute GDP.

In Italy, the Italian National Institute of Statistics (ISTAT) launched in 2013 the Fair and Sustainable Wellbeing (BES, according to the Italian acronym), an annual report on the quality of life of Italians.

Twelve indicators from the BES have recently been included in the Annual Economic Planning Document by the Italian Government. The aim is to assess and predict the impact of economic policies on quality of life.

Progress came, however, very gradually and public debate, as well as political communication, seems to be still largely focused on GDP and the pursuit of economic growth.

This is why we felt the necessity to study how Italians discuss about quality of life and economic growth, and which of the two topics they generally debate more often online.

For this reason, a sentiment analysis was made of internet users' discussions about quality of life and economic growth in Italy. This was possible thanks to the use of Artificial Intelligence and ultimate software packages which include Arianna SMM, an in-house software developed by Web-Research.it.

In the following pages, the results obtained are shown. For more information or to run similar studies in other countries, please refer to the contact details above.

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"Distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and the long term. Goals for more growth should specify more growth of what and for what" .

Simon Kuznets, 1962

WHAT AND HOW

AIM

As already briefly outlined, the aim of the research was to find out

- how and how much quality of life is being discussed by internet users in Italy, where, when and by whom precisely,

compared to

- how, and how much economic growth is being discussed by internet users in Italy, where, when and by whom precisely.

CLUSTERS

In order to do so, we collected all comments and opinions freely made on the web by internet users in Italy between a certain time framework.

We then made a semantic analysis of those data, creating clusters for both concepts (namely, quality of life and economic growth).

Clusters contained items which were generated after the input of two or three key words and the generation of such items led to the further generation of other related items.

For instance, the *Quality of Life* cluster contained more than 300 items related to quality of life which were generated by the input of the following terms: *Fair and Sustainable Well-Being*, *Sustainable Development Goals* and *World Happiness Report*.

The *Economic Growth* cluster, instead, eventually grouped more than 200 items, the generation of which started with the input of the words *GDP* and *pro-capita income*.

Examples of items in the first cluster include: human development, sustainable energy, social support, trust in the government, health, low inequality, etc.

Examples of items in the second cluster include: economic growth, economic recession, inflation, economic crisis, etc.

Data collected include all public opinions and comments related to the items identified in the clusters above and made by internet users in Italy on e.g. social media and blogs, but do not include comments made on newspapers' website or social media pages.

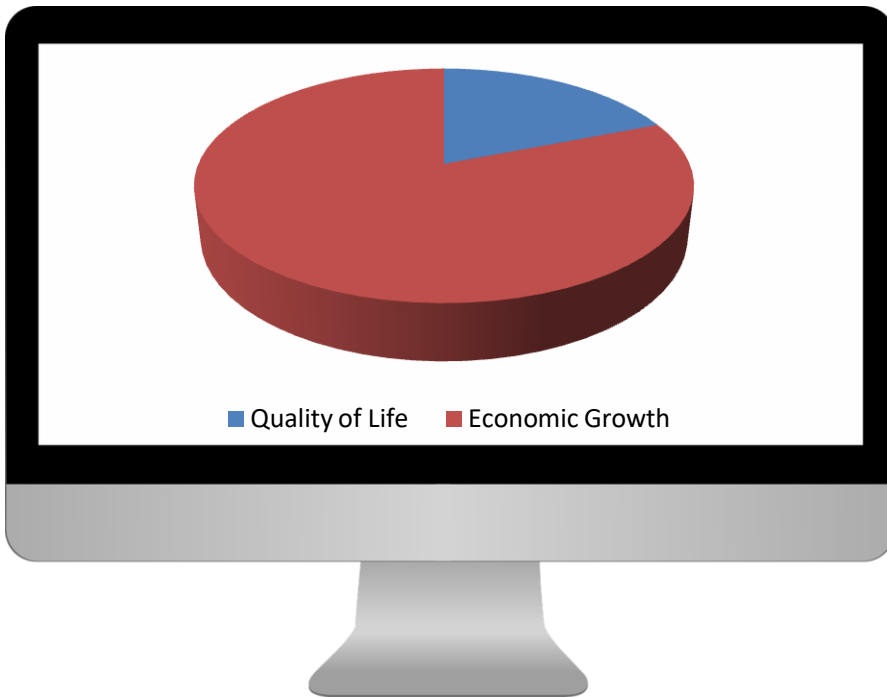
ANALYSIS

After the generations of items and opinions, the collected texts were analyzed, both quantitatively and qualitatively, thanks to the use semantic analysis software based on Artificial Intelligence and the simulation of neural networks. These include an in-house software called Arianna SMM developed by Web-Research.it.

RESULTS

HOW MUCH?

A total number of **17.554.515** opinions were collected, dating from the first of July, 2016 to the 30th of June, 2017 of which **3.297.358** (19%) pertaining to the *Quality of Life* cluster and **14.257.157** (81%) to the *Economic Growth* cluster.



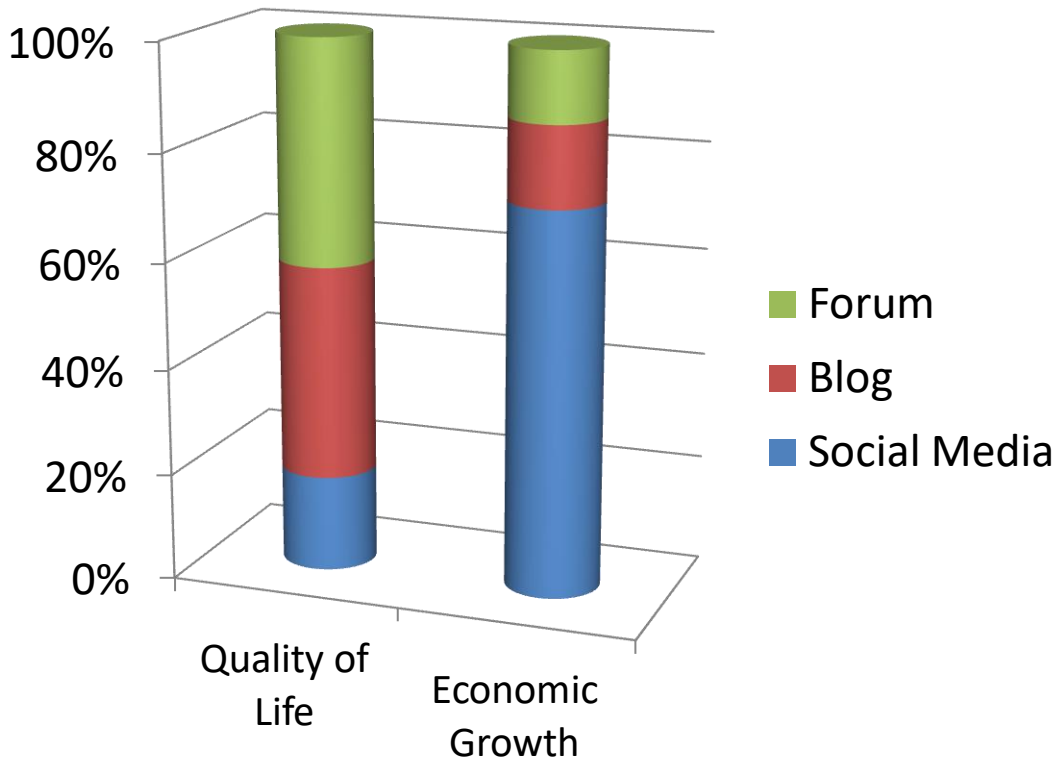
Therefore, the number of opinions related to economic growth freely made by internet users in Italy on social media, blogs and other similar space is **four** times higher than those related to quality of life.

ECONOMIC GROWTH

QUALITY OF LIFE

WHERE?

The majority of opinions and comments about quality of life was made on blogs and forums, while the majority of opinions and comments about economic growth was made on social media.

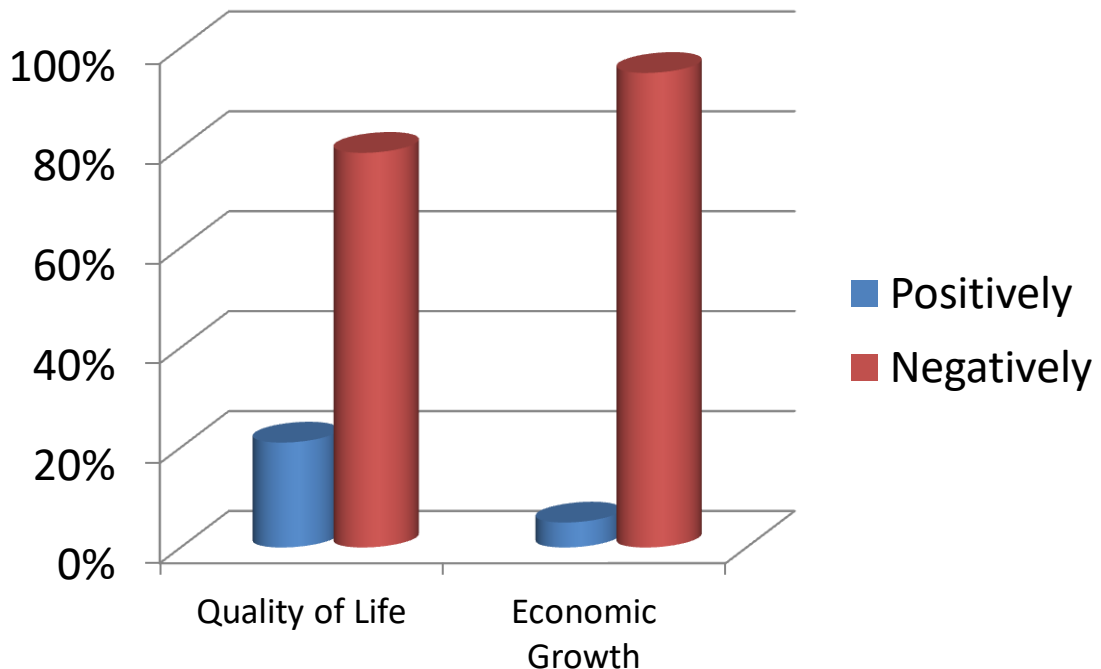


As blogs and forums are usually said to be less superficial than social media, quality of life seems to be discussed in places where the level of the debate is generally higher, while economic growth seems to be discussed more in places where not much prior expertise and knowledge are required.

Bearing in mind this assumption, which might not necessarily be always true, **82%** of those who talked about quality of life in Italy did so in more expert settings, while only **28%** of those who talked about economic growth did.

HOW?

According to our psychometric analysis, which enabled us to distinguish positive statements from negative ones, internet users in Italy talk about both clusters in negative terms, especially in relation to economic growth.



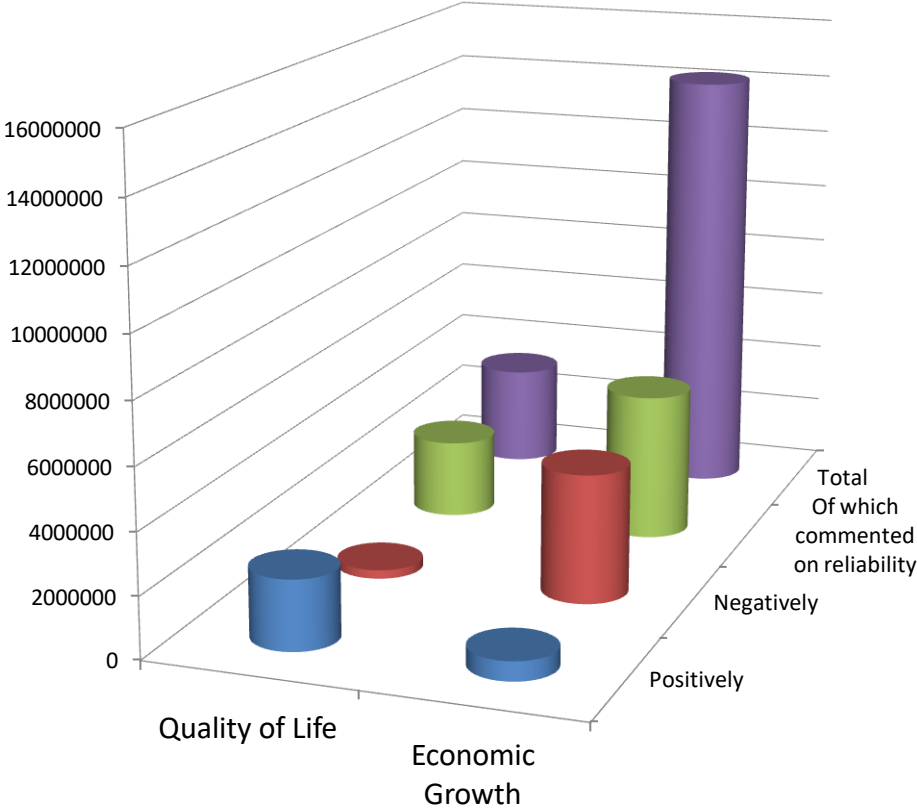
In other words, this means that Italians talk predominantly in a negative way regarding the quality of life and economic growth in their country. They seem to be pretty dissatisfied with both, although such dissatisfaction is higher for items in the *Economic Growth* cluster.

Interestingly, the majority of users seems also to distrust the reliability of data and predictions about economic growth, and the institutions that provide such data, while the opposite seems to be true in regard to quality of life.

Indeed, 78% of those who discussed online about quality of life also commented about the reliability of quality of life data and the institutions

collecting such information. **89%** of them did so in a positive way, while only 11% showed distrust or commented in a negative way.

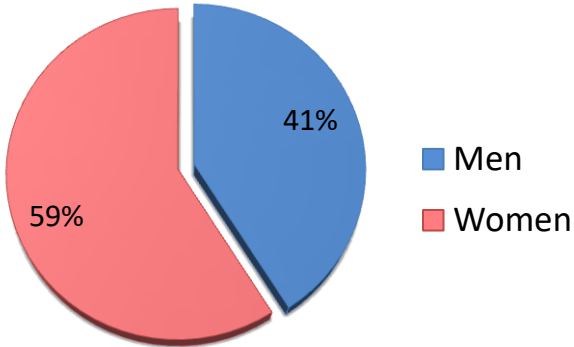
Conversely, less people who talked about economic growth also commented on the reliability of data and institutions collecting them. Moreover, those who did so did it largely in a negative way (**83%**).



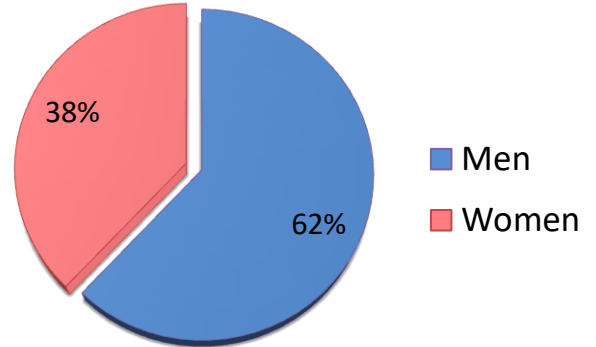
WHO?

Overall, women tend to discuss slightly more about quality of life (**59** vs. 41%), while men tend to discuss more about economic growth (**62** vs. 38%).

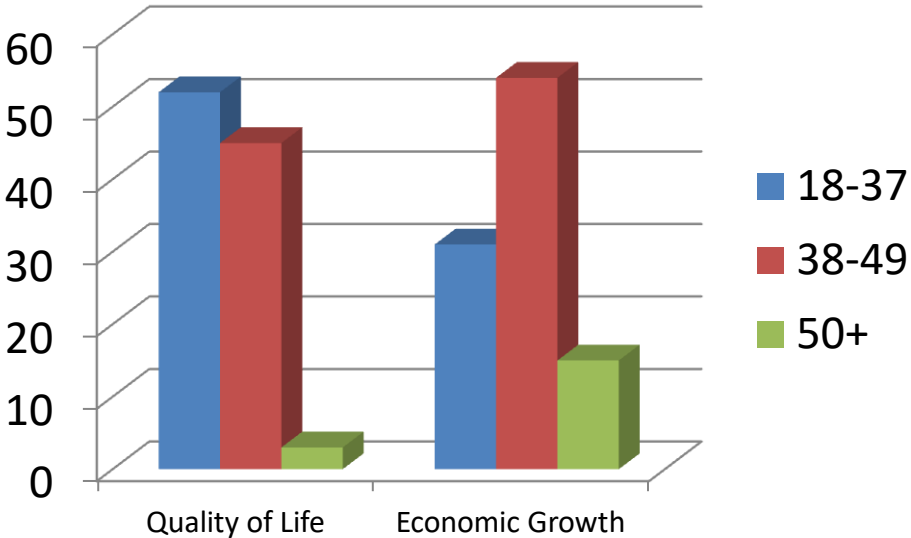
Quality of Life



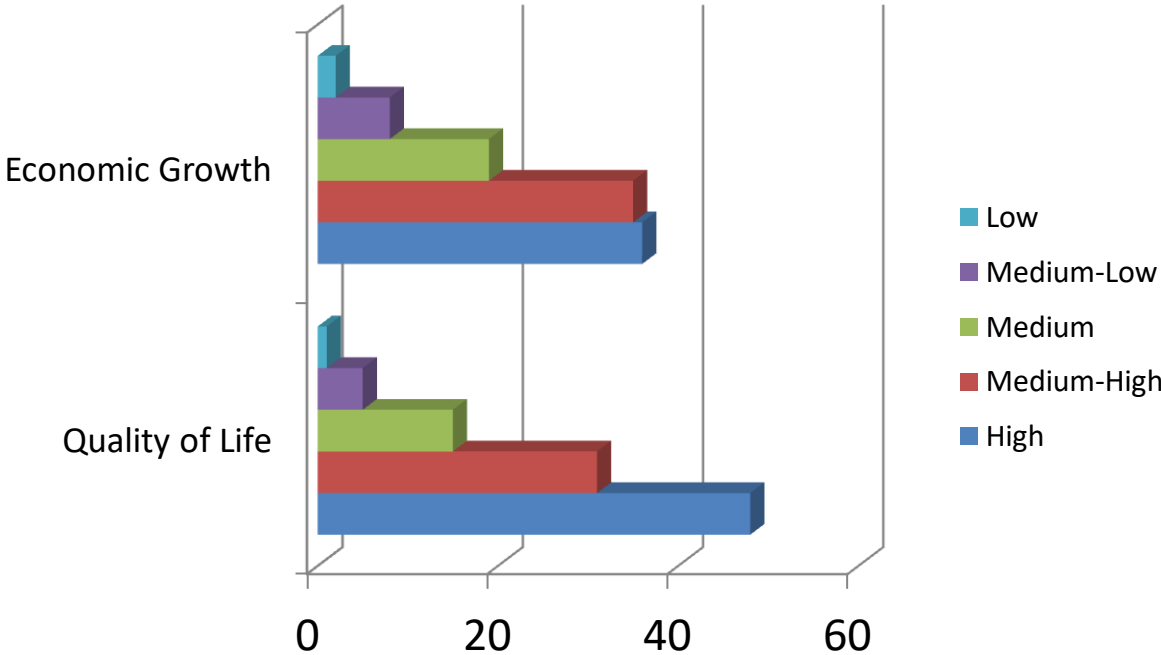
Economic Growth



Quality of life is also discussed more by people aged below 50, while economic growth seems to be more debated by those aged 38 and above.



Last but not least, quality of life tend to be discussed more by people with a high or medium-high education.



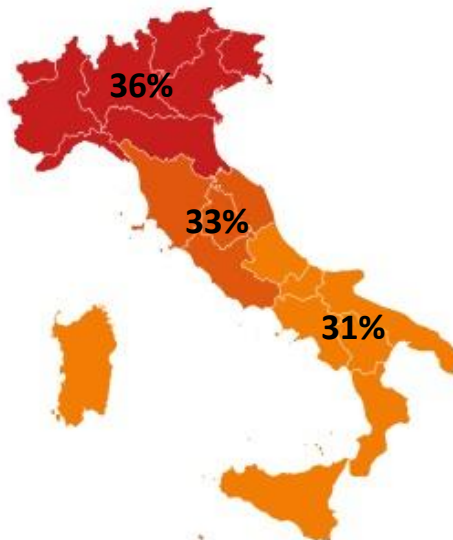
WHERE?

Broadly speaking, quality of life and economic growth are not discussed equally within regions. Quality of life and economic growth are indeed discussed slightly more in the North than in the South, such difference being more marked for the *Quality of Life* cluster.

More in detail, quality of life is discussed 39% of the times in the North, 35% in the Centre and 26% in the South.



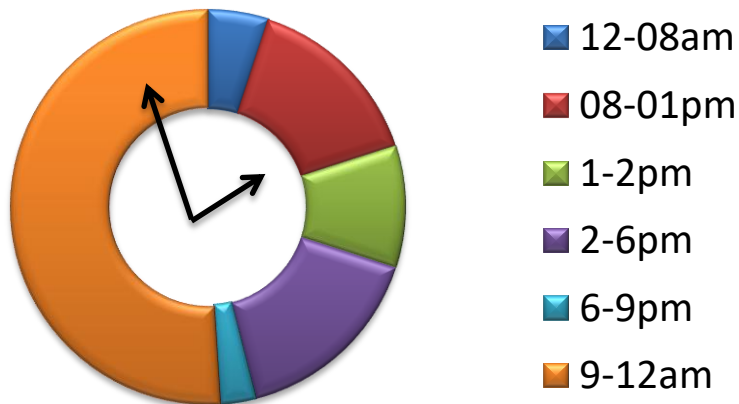
Economic growth, instead, is discussed 36% of the times in the North, 33% in the Centre and 31% in the South.



WHEN?

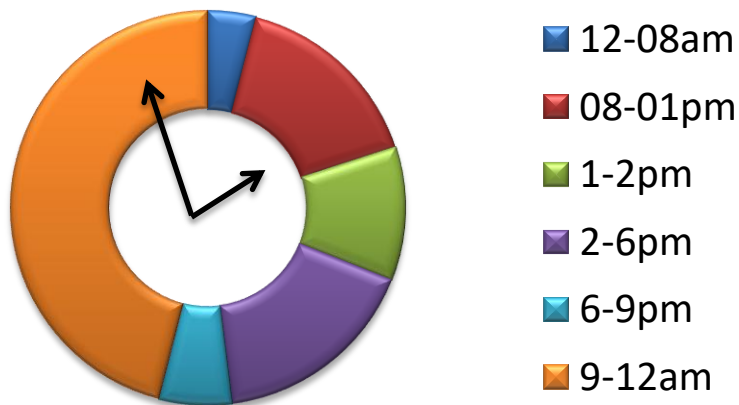
Timewise, most comments about quality of life are made between 6 and 9 pm (**51%**), 29% between 1 and 6pm and the remaining 20% between midnight and 1 pm.

Quality of Life - Time



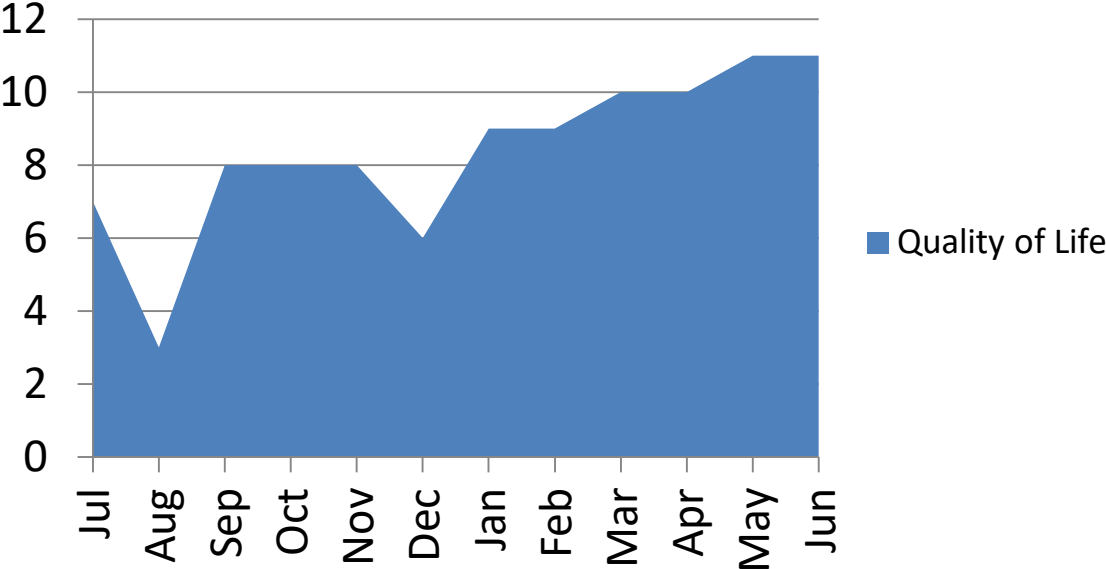
Similarly, most comments about economic growth are made between 6 and 9 pm (**46%**), 34% between 1 and 6pm and the remaining 20% between midnight and 1 pm.

Economic Growth - Time

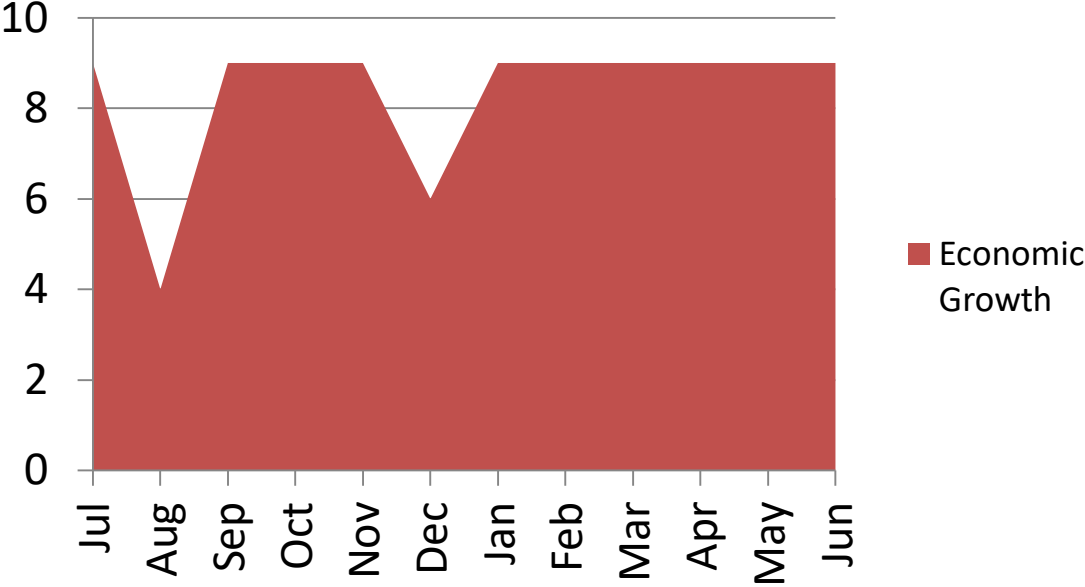


Regarding the time of the year in which comments were made, quality of life in the timeframe analyzed was discussed more from March to June, while economic growth was discussed fairly similarly all over the year, with a decrease in interest in August and December during the festive period (but this trend can be found in the first cluster, too).

Quality of Life



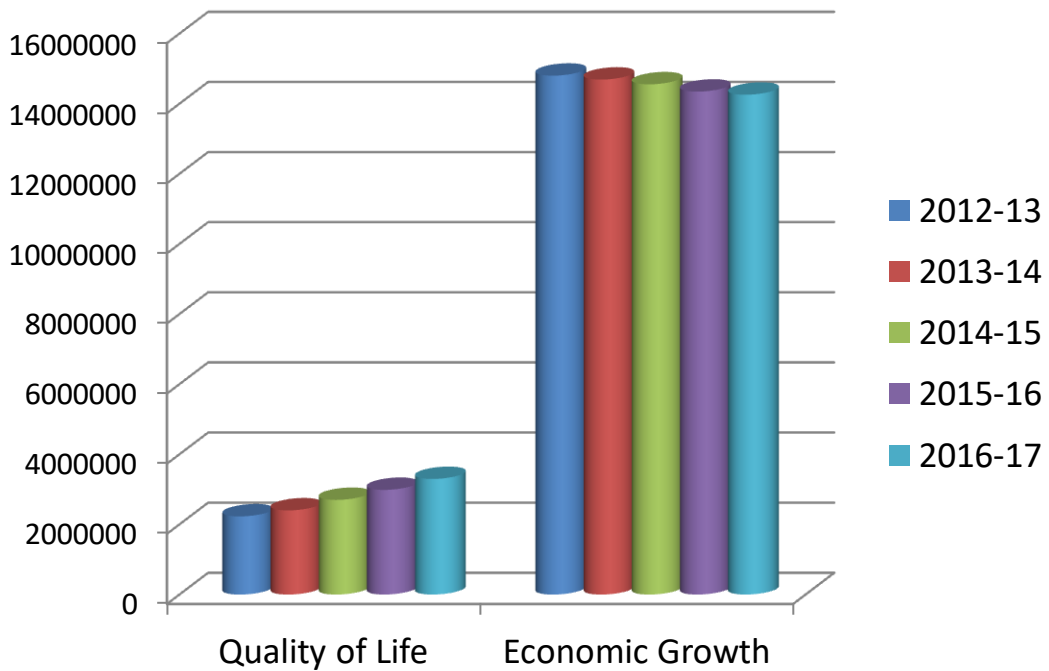
Economic Growth



ANALYZING THE TREND

Last but not least, we also provide figures related to how much both clusters have been discussed over the past five years.

The amount of opinions related to economic growth has slightly decreased over the years (-3.67%), while those related to quality of life have significantly increased instead (+48%). This is a sharp increase which should not go undernoticed. And yet, however promising that might look, one has to bear in mind that the *Economic Growth* cluster is still being discussed four times more than the *Quality of Life* one.



CONCLUSIONS

Between 2016 and 2017, the *Economic Growth* cluster was discussed four times more than the *Quality of life* one in Italy by internet users.

Quality of life-related matters are being debated more on blogs and forums, where debate is supposed to be more expert, whereas economic growth-related matters are being debated more on social media, where there it is said to be more superficiality.

Italians made negative comments about both clusters, *i.e.* they are dissatisfied with both quality of life and economic growth in their country.

They also seem to rely quality of life data and institutions collecting them, while data about GDP seem to be perceived as less reliable, so as the institutions that collect them. It is important to notice here that, however, those institutions are often the same (ISTAT in the Italian case).

Quality of life seems to be discussed more by women and people aged below 50, often with a high or medium-high level of education, while economic growth by men and those aged 38 and above, often with a high, medium-high or medium level of education.

Quality of life is also discussed slightly more in the North, economic growth being debated fairly equally all over the country, instead.

There is not much difference in the time of the year the two clusters are discussed, but quality of life was discussed, in the timeframe here analyzed, increasingly between March and June.

Ultimately, data show again an increasing interest in quality of life (+48% in five years) and a slight decrease in interest in economic growth (-3.67%), but economic growth is still debated four times as much. That quality of life is being debated more is good news, but this research suggests that there is still a lot of work to do.

“Gross National Product counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl. It counts napalm and counts nuclear warheads and armored cars for the police to fight the riots in our cities. It counts Whitman’s rifle and Speck’s knife, and the television programs which glorify violence in order to sell toys to our children. Yet the gross national product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile. And it can tell us everything about America except why we are proud that we are Americans” .

Robert F. Kennedy, 1968.