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How does the social structure affect the financial behaviour of individuals and markets through social media

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Italian Abstract

INTRODUCTION

The purpose of this study is to analyze how does the social structure, expressed through social media, influences the financial behavior of social actors and markets' prices, with the goal of trying to understand social media's role in the individuals' perception of the market and the reasons for which this happens.

The data cited in this paper come from a longitudinal study of different scholars throughout more or less recent history, that tried to understand the reasons for which, in some cases, persuasion and influence can be used against or simply to convince many people of anything.

The focus of the first chapter will be the **human consciousness** and the way it works, thanks to three scholars in particular - John Locke, Ludwig Wittgenstein and Sigmund Freud – that have highlighted in their publications many of the features of the conscious and unconscious mind and the way it works within a group, and I will try to tackle and understand how the power to influence human consciousnesses of social media is obtained, or socially constructed if I may say.

Furthermore, to try and link this analysis to our present at the end of the first chapter I have talked about four different recent phenomena, to which the very same principles observed by the scholars could perfectly be applied.

The focus of the second chapter will be an attempt to describe and understand the link between social media and society, how could these same social platforms actually have the outcome of isolating us and how a given shared *sentiment* on social media can affect the market prices of stocks or cryptocurrencies.

In order to analyze the aspect of social media I have gathered a great amount of information from many studies of many scholars that all, in one way or another - from scientific experiments, to algorithms, to Twitter data analysis -, have tried to give an empirical and most importantly scientific interpretation to what our society has become and is becoming every day.

Among the many scholars that I have cited in this chapter, the one that gives a very thorough and interesting analysis of our society and its problems is Byung-chul Han, that analyzed how in our

modern society we are losing every day more the concept of the *other*, and that we are on a path of conformation that leads to depression and boredom.

In the third and last chapter, in light of all the finding of the previous ones, the focus is shifted towards the practical, economic outcomes and impact of social media on society and on the market. Thanks to many works of many scholars indeed what I have tried to achieve in this last section is a report of how actually the social media influence the markets and the economy and how this social influence is then reflected on the market as an economic influence, and with many data from many scholars' publication this influence is made perfectly clear.

1. HUMAN CONSCIOUSNESS AND SOCIAL MEDIA

Is it possible to control the human brain? Might it be possible that some external variables have an unintentional influence on our behaviors or ideas? These are questions that have been posed numerous times throughout history, and the answer has always been the same: yes.

- Human Consciousness

In the 17th century, John Locke made the first attempt to define what human consciousness is and how it works, stating that our own identities are inextricably linked to our consciousness, which can be defined as the quality or state of being aware of external objects or internal feelings and emotions. In “Locke on personal Identity”¹, a paper by Galen Strawson, Locke’s theory of Personal Identity is analyzed, and the result of the analysis is that our personal identity is strongly linked to what is of concern for us, since humans are defined as creatures “capable of happiness or misery”². Hence what is of concern for individuals is what gives pleasure or pain, happiness, or misery. This is why the scholar states that in order to know what concerns one, one must first know himself, what constitutes him as a person, and this leads to one of the most important claims of Locke: “consciousness makes personal identity”³, meaning that once an individual is conscious of what constitutes him, of what concerns him, only then he will truly know himself and his boundaries.

Furthermore, since what is of most concern to us is our legal and moral responsibility – a general rule of right-living – the theory of personal identity is one of responsibility and concern.

In particular, the mental relation that one can have can be of two different kinds:

1. “Portions of Substance”⁴: material or immaterial things.
2. Actions: thoughts or other mental *going-on*⁵ (processes).

¹ Strawson, G. “Locke on Personal Identity.” Princeton University Press, 2017.

² *Ibid.*, 63.

³ *Ibid.*, 40.

⁴ *Ibid.*, 243.

⁵ *Ibid.*, 65

These notions on one's personal identity, as pointed out by Galen Strawson, form a circle: "concern, moral responsibility, personal identity, Consciousness, concern, which can be also seen as: Consciousness, identity, concern, responsibility, Consciousness"⁶.

Another famous scholar who tried to define what human consciousness is and its relation to the "I" was Ludwig Wittgenstein, who stated that it is indeed accountable for our ideas, calculations, and life expectations. In their paper entitled "Wittgenstein running: Neural mechanism of collective intentionality and we-mode"⁷, Cristina Becchio and Cesare Bertone discuss the problem of the neural conditions of shared attitudes and intentions, taking a look at neural representation of the so-called "we-mode"⁸ processes shared by many individuals.

The analysis starts with an anecdote, recounted by Professor Philip Johnson Laird during a lecture regarding Wittgenstein himself, which is the following: "Once Wittgenstein went to the railway station with a friend, who had to take a train. It was late and when they arrived in the vicinity of the station, they began to run. Wittgenstein was faster than his friend and reached the platform before her. At that point, unexpectedly, he jumped onto the departing train. His friend remained on the platform astonished, while the train moved away"⁹. The reason why he talked about this example was to analyze the so-called "intentional contagion: a contamination of an individual's intentions by intentions of others; Wittgenstein did not intend to jump on the train, but his action was determined by his friend's behavior"¹⁰.

In our everyday activities, we can always have two ways of acting: an individual and a collective one. John Searle, an American philosopher, tried to explain these different attitudes of acting in the following way: "Imagine a group of people sitting on the grass in various places in a park. Suddenly it begins to rain and they all get up and run to a common, centrally located shelter. In

⁶ *Ibid.*, 245.

⁷ Becchio, C. and Bertone C. "Wittgenstein Running: Neural Mechanisms of Collective Intentionality and We-Mode." *Consciousness and Cognition* 13, no. 1: 123–33. 2004.

⁸ *Ibid.*, 123.

⁹ *Ibid.*, 123.

¹⁰ *Ibid.* 123.

this situation each person has the intention “I am running to the shelter”, independently of one another. The actions are individual and do not involve anything similar to collective behaviour.

Imagine now a situation in which there is a group of theatre actors performing a play in which everybody performs the same action as in the earlier case, only now as part of their collective performance”¹¹. The difference in the two examples, as pointed out by Searle, is that in the first case every individual has his own goal – that in that case is to find cover from rain -, while in the second case the whole group of actors share a same goal and go towards it not as individuals but as a group.

After exposing these two examples, Searle accounts the “irreducibility problem”¹², which regards the possibility that we-intentions can be a result of I-intentions, since – as pointed out by Searle – we-intentions cannot be attributed to entities but to “psychological modes”¹³, which means to any individual’s own consciousness. But still, collective and individual intentionalities are very different and stem from very different biological processes and situations and neither of them can be reduced to the other.

Finally, Raimo Tuomela, a Finnish philosopher, tried to describe these collective intentions as well in 2005¹⁴, calling them we-mode intentions, which are represented by the thinking and acting as group members and not private individuals, furthermore, stating that neither of the two intentions can stem from one other, hence recognizing the existence of the irreducibility problem.

¹¹ Searle, J.R. *“The Construction of Social Reality.” Penguin Philosophy*, 1995.

¹² Becchio, C. and Bertone, C. *“Wittgenstein Running: Neural Mechanisms of Collective Intentionality and We-Mode.” Consciousness and Cognition* 13, no. 1: 126. 2004.

¹³ *Ibid.*, 126.

¹⁴ Tuomela, R. *“The We-Mode and the I-Mode.” The Philosophy of Sociality*, 46–64. 2005.

- Influencing Human Consciousness

As studied from the above-mentioned scholars, human consciousness can be influenced, and it has been for many years throughout history: with the progression of time, scholars and philosophers began to believe that any individual's awareness contained an element that could be controlled and another one, the unconscious, which the human couldn't control.

Sigmund Freud, one of the foremost philosophers on the subject, defined the unconscious mind as a “reservoir of feelings, thoughts, urges, and memories that outside of conscious awareness”¹⁵, according to his psychoanalytic theory. The unconscious mind, according to Freud, impacts humans' conscious behavior without their knowledge.

In his book “Group Psychology and the analysis of the Ego”¹⁶, Freud analyses the involvement in any individual's mental life of someone else, “as a model, as an object, as a helper, as an opponent [...]”¹⁷ and the paths by which he seeks to find satisfaction for his instincts, and under which condition is individual psychology in a position to disregard the relations of the individual to others.

Any individual, asserts Freud, has a small - enormously important - circle of people in his life that influences his consciousness, and this same influence can be also found in groups, where the different members are not close by intimacy or blood, but by something in which they all firmly believe in.

The second chapter of the book, entitled “Le Bon's Description of the Group Mind”, starts with a definition of what group psychology is: “[...] concerned with exploring the predispositions, the instincts, the motives, and the aims of an individual man down to his actions and his relations with those who are nearest to him [...]”¹⁸.

¹⁵ Cherry, K. “What Is the Unconscious (and Why Is It like an Iceberg)?” *Verywell Mind*. *Verywell Mind*, July 20, 2020.

¹⁶ Freud, S. “*Group Psychology and the Analysis of the Ego*”, 1921.

¹⁷ *Ibid.*, 1,2.

¹⁸ *Ibid.*, 5.

Gustave Le Bon, in his book entitled “Psychologie des Foules” (translated as “The crowd: a study of the popular mind”) points out that “the most striking peculiarity presented by a psychological group is the following [...], the fact that they have been transformed into a group puts them in possession of a collective mind which makes them feel, think and act in a manner quite different from that in which each of them would feel, think and act were he in a state of isolation [...]”¹⁹. By stating this Le Bon points out that many individuals can be combined by something that unites them as an entity, a group, and that the way of behaving is affected as well.

To try and understand this “collective mind” Freud points out that it is necessary to consider the unconscious mind as a key component in both the *organic life* and *operations of intelligence*. He states that our conscious acts are the “outcome of an unconscious substratum created in the mind by hereditary influences, this substratum consists of innumerable common characteristics handed down from generation to generation, which constitute the genius of a race [...]”²⁰. As a result of this, individuals that are part of the same group may be identified with an *average* character, but Le Bon argues differently: he thinks that any individual that becomes or is part of a group starts displaying new characteristics, which weren’t previously possessed. The reason for this acquisition of new traits is found in three different factors:

1. The individual acquires a sentiment of invincible power which allows him to “yield to instincts which, had he been alone, he would perforce have kept under restraint [...]”²¹.
2. Contagion: a phenomenon of hypnotic order stemmed from the cause believed in and the very fact of being part of a group: every sentiment and act is contagious to such a degree that the individual readily sacrifices his personal interest for the collective one.
3. The special characteristics determined in individuals that are quite contrary to those presented if they were isolated. Contagion may indeed be seen as an effect of this phenomenon. Individuals are not themselves anymore: they become automations that are not guided by their will anymore.

Le Bon’s argument goes on analyzing how the fact that a man becomes part of a group makes him descend several ladders of civilization: “isolated, he may be a cultivated individual, in a

¹⁹ *Ibid.*, 6-7.

²⁰ *Ibid.*, 8.

²¹ *Ibid.*, 9.

crowd, he is a barbarian: a creature that acts by instinct. [...]. A group is impulsive, changeable, and irritable. It is led almost exclusively by the unconscious. [...]”²². The author finds many reasons for the circumstance that lead to this way of behaving: “can be generous or cruel, heroic or coward”²³. The group becomes also gullible and easily influenceable and thinks in images whose agreement with reality is never checked: both Freud and Le Bon indeed agree on the fact that the group is extremely credulous and prone to be influenced: “they demand illusions and cannot do without them [...]”²⁴. For what regards the feelings of the group, they are always very simple yet exaggerated, and do not know doubt or uncertainty, going directly to being extreme: “if a suspicion is expressed, it is instantly changed into an incontrovertible certainty; a trace of antipathy is turned into furious hatred [...]”²⁵.

In order to influence and control a group, both scholars agree on the fact that it needs to be excited by excessive stimuli, exaggeration of facts and repetition of the same things again and again by a leader. In this regard, kindness is seen as a form of weakness: the group demands strength and sometimes even violence from its leaders, who rule and oppress it and must be feared, although the most important feature of a leader is being a fanatical believer in the ideas that they share and by which they unite any group.

The most magical power to control a group of people is found in words: “they can evoke the most formidable tempests in the group minds and are also capable of stilling them. Reason and arguments are incapable of combating certain words and formulas [...]”²⁶. A group is indeed defined as an *obedient herd*, which need a master in order to survive. The peculiar aspect is that any group has a “thirst for obedience so strong that it submits instinctively to anyone who appoints himself its master [...]”²⁷.

²² *Ibid.*, 14.

²³ *Ibid.*, 15.

²⁴ *Ibid.*, 19-20.

²⁵ *Ibid.*, 16.

²⁶ *Ibid.*, 19.

²⁷ *Ibid.*, 21.

Going then back to the essential characteristics of a leader, “he must be held in fascination by a strong faith in an idea, in order to awaken the group’s faith, he must possess a strong and imposing will, which the group – which has no will of its own – can accept from him [...]”²⁸.

Leaders have what Freud calls *prestige*: “a sort of domination exercised over us by an individual, a work, or an idea. It entirely paralyses our critical faculty and fills us with astonishment and respect [...]”²⁹. This prestige can be of two different typologies:

1. Acquired or Artificial: attached to persons in virtue of their name, fortune, reputation, opinions, and in general tradition. But since it is usually connected to the past, it is not an appropriate example to point out the influencing “power” of the leader.
2. Personal: attached to a few people, who are and become leaders by the means of it, having the effect of making everything obey to them as if it is some magnetic magic.

What is pointed out as the common ground among every type of leader anywhere in history and in the world, is that all prestige is whatsoever dependent among success, and bound to be lost in the event of failures.

Understanding how to influence the human consciousness has not been the goal of scholars and philosophers only; nowadays, what influences our consciousness most are social media, and as a result many new jobs started developing, like for example the ones of influencers and social media managers.

The role of influencers, as the word says, is to influence people into buying a given brand or given clothes: they basically tell people what to buy and when to buy it and more especially what is trendy or not. These influencers, it could be argued, are not very dissimilar from the tyrants or rulers who imposed whatever directive or order on their subjects, or from the leaders with the *prestige* which Sigmund Freud talked about.

²⁸ *Ibid.*, 21.

²⁹ *Ibid.* 23.

- Power of social media on social actors

In this part the goal of the analysis will be of determining and highlighting how those three concepts of human consciousness, we-mode and group psychology perfectly apply to many phenomena of the present, in particular regarding social media, and how do social media exercise a great power on every one of us and can influence our behaviors.

Modern society is extremely connected, everything happens extremely fast, and since a few months people can now “hang out” in the so-called metaverse – a parallel universe based on the internet, which works thanks to various kinds of technologies: from social medias and digital currencies to AI, Augmented Reality and Virtual Reality - from their home, with whomever from wherever in the world, and where they could actually and potentially live.

“In the future, everyone will be world-famous for 15 minutes”: this famous quote from Andy Warhol can perfectly describe nowadays reality, where somebody can be world famous for an hour or a day thanks to a video or a post, and then be forgotten, and even though our society has extremely developed in the last decades and centuries to a point which could only be imagined or fantasized of years ago, many concept described and studied by the above mentioned scholars can perfectly still apply, and many of these could be argued to almost being identified as the root from which many concepts stemmed.

There is no doubt that we have developed as society, but is this the same for the question of whether or not our consciousness changed? It could be argued that even though years passed and technology both simplified and became part of our lives, our consciousness still works in the same way of which described and studied by John Locke for example. Each one of our Personal Identities still works in the same way, with some characters and processes and feelings more enhanced if I may add. We still are “creature capable of happiness or misery”, that crave the former and fear the latter even more, since both can be recognized and seen not only at a local level, but at an international one. But in this hyper-connected and hyper-fast moving world, where almost every culture and ethnicity is united in a single world that drawn everyone’s attention, the so-called Personal Identity could be endangered, since being able to isolate in a word which is evermore becoming based on connections may seem impossible and hence getting

to know one's true self may become an impossible thing to accomplish: knowing what constitutes or concern truly an individual in an unbiased way, it could be argued that became very difficult.

Social medias, thanks to the algorithms that make them work, can know and decide what interests us, what we need.

Abraham Maslow - an American psychologist - in a 1943 article on the magazine called *Psychological Review*³⁰, proposed his theory of a pyramid of needs, called "Maslow's Pyramid"³¹, which represented a five-level hierarchy of needs of every human being, that need to get satisfied and in doing so we give precedence to one or another differently. The five levels of needs, from the bottom upwards, are the following:

1. Physiological needs: the biological requirements for human survival, without which the human body cannot properly work. Until these needs are met, fulfilling the other needs is not even considered, according to Maslow.
2. Safety needs: these are represented by the requirements and needs an individual requires from himself or society in order to leave a peaceful and satisfying life: from emotional and financial security to law and order, social stability, health and wellbeing.
3. Social needs: represented by the feeling of belongingness, which stems from being part of a group, connecting with people. Those needs are fulfilled with love relationships, friendships and with the intimacy of being part of a group.
4. Esteem needs: in this category there are two kinds of needs, which are the needs that an individual feels necessary to his self-esteem – like independence or dignity or work success - or those compulsory for deserving respect from others or building a reputation – like status or prestige -.
5. Self-actualization needs: those needs are described by Maslow as the ones that are represented by the desire to accomplish everything one can, and to become the most one can be in whatever aspect of life.

³⁰ Maslow, A. H. "A Theory of Human Motivation." *Psychological Review* 50, no. 4: 370–96. 1943.

³¹ Mcleod, S. "Maslow's Hierarchy of Needs." *Simply Psychology*, December 29, 2020.

I have found this pyramid of needs very interesting because since nowadays most of our lives take place on social medias, the fact that the fulfillment of those need may take place on these very platforms is not and hypothesis to exclude a priori.

Modern smartphones are an extremely powerful tool, available to more than 5 billion people, 2.77 of which are using social media apps. Compared to the total number of world citizens, this may seem a low percentage but this conception changes when we think that more than 3 billion people live on less than \$2.50 a day.

So, if more than 2.77 billion people use social media on a daily basis, someone may argue that it could be possible that a hyper-globalized parallel world has developed over the years, and so getting to know one true self without any external influence, as Locke would have described, may result impossible.

This gigantic community, online based, can be find as a very interesting group of people to study; or to be more precise, a melting pot of an enormous number of groups that themselves are a melting pot of people, all connected by their shared interest or beliefs. In these communities, the probability that we-mode way of thinking could spread is very high, it could be argued.

In the case of social medias, it could be tried to further develop Searle and Tuomela's "irreducibility problem" since with social medias we could find the first example of we-mode intentions stemmed from I-mode intentions.

Let me explain: the two afore-mentioned scholars believed that no we-mode intention of any kind could derive from any I-intention, in the sense that an action performed with a subjective approach would not have the same outcome or would not be carried out in the same way as if it was a we-intention backed action. I am not trying to assert that this instead happens in social media but the aspect I would like to underline is represented by the fact that individuals who use social media perform an action that is both directed and thought as an I and we-intention:

- I-intention: may be an I-intention because posting or interacting on social media may be a way to further increase one's prestige or popularity.
- We-intention: but it also may be a we-intention since on social media people can not only get in contact, but someone may try to fit in in a given social circle simply by posting on social media his or her reality.

So, until now I have tried to point out how social media constitute a gigantic group of people made of other groups, so what perfectly applies is the analysis of Group Psychology by Sigmund Freud.

While reading his book “Group Psychology and the analysis of the Ego”, the aspect that struck me most of the described groups was how their components are prone to be credulous and open to influence without critical faculty, which made me think of how fake news nowadays easily spread and have an absurd influence not only on individuals lives and opinions, but on markets as well.

The need of the master which Freud talks about while exposing the features of the *obedient herd* - which is a group of people in respect of its leader -, is nowadays expressed through social medias, so this could be argued to be a reason why influencers have the impact they have on people: the influencers of our present could be seen as the leaders with the *prestige* that Freud talks about.

If we think about it, the personal privilege above mentioned can be obtained with words; influencers, among the different means by which they influence people, often use words. Exact words that are studied to be captivating for the average consumer, that is either convinced or intrigued by them.

But social medias do not only have a bright side of uniting billions of people together, but there are also many down sides indeed, which have been underlined by many studies.

For instance, according to a study performed by California State University³², it was found that individuals that visited any social media platform at least 58 times per week were three times more likely to feel socially alienated and unhappy than those who used it less than 9 times per week.

Furthermore, according to a report done by the Royal Society of Public Health³³, social media usage is strongly associated with:

- Anxiety
- Depression

³² McPherson D. et al., *The Effect of Social Media Use Via Mobile Device on the Mental Health of Young Adults*, May 2020.

³³ “#StatusOfMind - RSPH | Royal Society for Public Health UK.” *Royal Society of Public Health*. 2017

- Poor sleep quality
- Body image issues
- Cyberbullying

All these issues are at an all-time high: they have increased of 70% in the last 25 years. And in detail:

- 9/10 teenage girls are unhappy with their body
- 7/10 teens have experienced cyberbullying, 37% of which experience it very frequently.

Furthermore, according to this same study, Facebook, Twitter, Instagram and Snapchat all have an overall negative effect on the well-being of younger generation and the only one with a positive impact is found to be YouTube. The reason for this is that while the first four have *newsfeeds* that draw our attention, YouTube is a platform where the user usually looks for what interests him and is not distracted by the feed. And if distraction was the only problem, there would not be much to talk about, because apart from distracting ourselves, social media are also found to be addicting: according to a survey made by reviews.org³⁴ on Americans aged 18 and older, it was found that on average Americans check their phone 262 times per day, each day. Newsfeeds are virtual places that are designed to watch the interactions of each and every one of us and maximize the amount of time we spend on them, by adapting to our preferences and always proposing something new, something unknown, or that we still don't know we would potentially like.

According to an article published on Addiction Center³⁵, an issue that concerns more and more individuals every day is social media addiction, which is a behavioral addiction expressed by a compulsive need to log on and check social medias, sometimes also giving it precedence over other important aspects in life. This type of addiction has the same effects on our bodies of any other addiction, like for example mood swings, conflict, and withdrawal symptoms. From a scientific point of view, social media addiction is developed because of the dopamine-inducing social platforms, that trigger the same neural reward brain areas of when one makes use of drugs

³⁴ Wheelwright, T. "2022 Cell Phone Usage Statistics: How Obsessed Are We?" *Reviews.org*, January 24, 2022.

³⁵ "Social Media Addiction." *Addiction Center*, May 4, 2022.

like cocaine or gambles; indeed, it is stated in the article that “neuroscientists have compared social media interaction to a syringe of dopamine injected straight into the system [...]”³⁶.

In the article on addictioncenter.com, is made reference to a new study conducted by Harvard University that also confirmed that self-disclosing personal information and experiences on social medias lights up the same part of the brain that lightens up when taking addictive substances like cocaine: when we experience something rewarding or use addictive substances, neurons in the dopamine-producing areas of our brain get activated and arise dopamine levels, which is seen as a reward by the brain which consequently associates that action or substance as positive thing.

This dopamine production was found in individuals that, when receiving any kind of notification from social medias, have a rush of it and feel pleasure as a result. But the problem with this pleasure is that it is an immediate reward that requests no effort from the individual, that will find this kind of immediate rewards way more self-fulfilling than those that require some efforts into it.

The researchers at Harvard University also found out that these rewards centers of the brain are the most active when one is talking about himself: in the real world, people talk about themselves in a percentage of 30 or 40 percent; on social medias, which are designed to let the users show off their lives and accomplishments, individuals talk about themselves 80 percent of the time, more than the double of real life: the social media habit and addiction is in this way perpetuated, because an individual talks or posts a photo of himself, gets likes and comments that he sees as a reward for that behavior that would not receive in real life, and so he keeps doing it more and more.

This addiction to social media that is developed, as above shown, leads individual to ignore real-life relationships, work or study responsibilities and physical health.

³⁶ “*Social Media Addiction.*” *Addiction Center*, May 4, 2022.

So, this is how the power of social media affects our brain and makes us social medias “junkies”, but what I want to point out is that it does not only affect our brains and moods, but also our behaviors.

Many studies have been conducted in this regard, and the results were quite frightening. As a result of excessive social media usage, scholars found many side effects, as the adoption of varying personas, shorter attention spans, self-obsession, and an inflated importance of online personas.

In particular, the kind of behaviors that will be the focus of this analysis are the financial behaviors. According to Andre Kostolani, who was a stock market expert, “Facts only account for 10% of the reactions on the stock market, everything else is psychology”³⁷, and having seen how human psychology and consciousness can and actually is affected by the social structure and social medias, this leaves no or almost any doubt about their influence even on financial behaviors and stock market.

The evidence I gathered confirms the above-mentioned hypothesis: according to a study published by the British Columbia Securities Regulator and conducted by the Innovative Research Group for the British Columbia Securities Commission, more than a third of Canadians are getting investing information on social medias or online forums at least once a week.

To further confirm the hypothesis, I have found three situation that show how that is true: the first example regards Kylie Jenner, an influencer, that on Feb. 21, 2018, in a tweet complained about the functioning of another social media app, Snapchat, and as an effect Snapchat stock dropped over 6% in one single day, amounting to a loss or almost 1.5 billion.

The second example is about Steve Jobs and a fake tweet about his death that in 2008 resulted in a 5.4% decline of Apple’s stocks.

The third example, which is not strictly connected to social medias but that had a great number of comments about on social medias, is regarding the time when Cristiano Ronaldo, the famous

³⁷ Nasdaq. “How Does Social Media Influence Financial Markets?”, 2019.

football player, moved away from his interviewing desk a bottle of Coca-Cola, stating that he does not drink it. This action resulted in a stock plumb that costed Coca-Cola almost 4 billion dollars.

To finally get into and grasp the real effect on market and market dynamics, there is one last example: the case of GameStop Corp. stocks, that on January 28, 2021, reached an all-time high price of 483\$ per share: the price skyrocketed from the 20\$ of just two weeks earlier. The reason for this astonishing price variation was found by the SEC, which in the “SEC Staff Releases Report on Equity and Options Market Structure Conditions in Early 2021”³⁸, published by the U.S. Securities and Exchange Commission on October 18, 2021, stated that “GameStop Corp and multiple other stocks experienced a dramatic increase in their share price in January 2021 as bullish sentiments of individual investors filled social media.”

Hence in this fourth case as well, an evident correlation between a *sentiment*, a shared conception or idea or position on social media and a following result on the stock market has emerged, leaving – as previously stated – little or no doubt regarding whether or not social medias actually influence the consciousness and behavior of individuals.

³⁸ “SEC Staff Releases Report on Equity and Options Market Structure Conditions in Early 2021,” U.S. Securities and Exchange Commission, October 18, 2021.

2. SOCIETY, STOCK AND CRYPTO MARKETS AND SOCIAL MEDIA

In this chapter the focus of the analysis will be to try and understand how social media affect our society and isolate us, and how shared *sentiments* on social media affect market prices, really understanding the very link between their influence on society as a whole and how that is translated in an effect on the market.

- Society and social media

What is our society? The modern society could be argued to be defined as a melting pot of cultures, a society that exists both in the real and in the cyber world. Our own lives are lived both online and offline, and the time we are living in the online world is on a path of continuous growth.

This digitalization of our society has many advantages, like giving us the possibility to communicate and exchange information from different sides of the world, but there are also many downsides to it as well. Among the many effects on individuals' lives, there is one that has serious implication on both their psychology and the financial behavior.

A scholar that studied and describe the situation of alienation caused by social media, is the South Korean philosopher, and Professor of theory of culture in Berlin, Byung-Chul Han, that in his book called "The Expulsion of the Other"³⁹ lets us observe this matter from an external and objective point of view.

The principal assertion of the author is that social media and in general modern society is on a path of conformation, which has inevitably led to the extinction of the "Other", intended as someone or something that we do not know, that maybe we do not understand and that could even frighten us in the beginning. But the point sustained by Han is that all of the diseases that are becoming ever more common in teenagers liked expression or self-harm and so on could all stem from this very problem of the inexistence of the other.

³⁹ Han, B.C., & Hoban, W. *The expulsion of the other: Society, Perception and Communication today. essay, Polity Press. 2018.*

In the first chapter, entitled “The terror of the same”, the author points out from the very beginning that “a system that rejects the negativity of the Other develops self-destructive traits”⁴⁰, and asserts that “social media constitutes an absolute zero grade of the social”⁴¹: This conclusion is reached because nowadays any individual can travel anywhere but do not experience anything, any individual can see and witness any kind of phenomenon, but doesn’t learn or understand anything of it, any individual has a strive to accumulate friends and likes and connections online, without ever really encountering a person. So what he means with zero grade of the social is that, differently from what we think of social media – some online places where people can join each other in bigger groups or communities -, they do not unite populations, yet they divide them further more; globalization as we are experiencing today, according to Han, has an “inherent violence that makes everything interchangeable, comparable and thus the same”⁴², meaning that this strive for connection and being similar to one another in the way of dressing behaving and also thinking is leading to an elimination of any kind of difference – be it cultural or behavioral – in all the different continents. Han talks about the violence of the global, that destroys any differences, “sweeps away all singularities that do not submit to universal exchange”⁴³.

He then analyses the mean by which, in nowadays society, one is defined and obtains his security from: money. “Money is a poor bestower of identity. It can replace identity, however, for money gives its owner at least a feeling of security and calm. Someone who does not even have money, however, has nothing – neither identity nor security”⁴⁴, by this he means that in times where real identities of individuals do not count anymore and what counts is what is displayed, demonstrated and shown off on social media, money is the only mean that can allow anybody to do anything: the more you have, the more you can do, the more you can show off. It could be argued that indeed we live in times where we want to be seen, but not known.

He then goes on analyzing a concept that can be both dangerous and insightful: authenticity. “To be authentic means to be free of pre-formed expressive and behavioral patterns dictated from the outside. It prescribes that one must equal only oneself and define oneself only through oneself.

⁴⁰ Han, B.-C., & Hoban, W. *The Terror of the Same. In The expulsion of the other society, Perception and Communication today, 5. essay, Polity Press. 2018.*

⁴¹ *Ibid.*, 6.

⁴² *Ibid.*, 14.

⁴³ *Ibid.*, 14.

⁴⁴ *Ibid.*, 16.

[...] The imperative of authenticity develops a self-directed compulsion, a compulsion to constantly question oneself, eavesdrop on oneself, stalk, and besiege oneself. It thus intensifies narcissistic self-reference.”⁴⁵ when I say that it is a concept that can be both dangerous and insightful I refer to this above mentioned passage of the book, where the author states that in order to be authentic one must be free of pre-formed expressive or behavioral patterns, so be one’s true self, but at the same time it involves a constant questioning and comparing of oneself, both towards the other and his self, and a developing of narcissistic attitudes. An interesting assertion is that “Today, everyone wants to be different from others. However, this will to be different enables a continuation of the Same”⁴⁶, meaning that the more one compares himself to others and tries to be different, differ from them, the only outcome he actually reaches is a perpetuation of conformity: if everybody strives to be different from the other, then everyone is the same.

Going back to the concept of authenticity and how narcissistic attitudes stem from it, narcissism is defined by Han as blindness to the other: the narcissist recognizes himself in the other and if doesn’t, he looks for given feature of himself that he finds in the other, perceiving the world “only in shadings of itself”⁴⁷, causing the other to disappear and more than that he almost completely eliminates the difference between the self and the others.

These narcissistic attitudes lead to an enormous difficulty to find self-esteem in oneself.

Nowadays indeed, self-esteem and gratification are looked for on social media, in likes followers and comments, in the conviction that one is important for and loved by other people, who he or she may even not know.

Then the author cites a very interesting argument, posed by Alain Ehrenberg: according to him, today’s diffused depression stems from the absence of conflicts and of working out of conflicts: “Today’s culture of performance and optimization does not allow us to work through conflicts, which is time-consuming. Today’s performance subject only knows two states: functioning or failing. In this, there is a resemblance to the condition of machines: machines also know no conflict. They either function correctly or are broken”⁴⁸, hence he argues that the extreme speed and connectivity and the requirements of our modern society to always be efficient and complete

⁴⁵ *Ibid.*, 22.

⁴⁶ *Ibid.*, 22.

⁴⁷ *Ibid.*, 25.

⁴⁸ *Ibid.*, 25.

task has quickly led to a mechanization of ourselves, where we do not allow ourselves the time to work out problem or conflicts and think about them, we just find the fastest solution and then move on. According to Ehrenberg indeed, “Conflicts are not destructive; they have a constructive side. It is only from conflicts that stable relationships and identities ensue. A person grows and matures by working through conflict”⁴⁹. Going back to the isolating power and zero grade of sociality of social media, Han then analyses selfies: according to his point of view, selfies are what express the most the loneliness of people, “To escape this torturous emptiness today, one reaches either for the razorblade or the smartphone”⁵⁰. One looks for a feeling of something, be it importance of self-gratification, and he looks for it either in social media or in hurting oneself, according to him, and as in the case of cuts with razor blades if one flips the screen that lets people hide themselves behind selfies, he will discover the wounds of who posted it.

Depression and loneliness stem from our hyper communicative society, that has replaced relationships with connections, where “gaplessness supplants closeness”⁵¹. This loneliness and distance from the world cause a distancing even from oneself.

There is a concept, according to Han and also Sartre, that is what lets the Other announce its presence, that makes us feel the presence of the other: the Gaze. “Today the world is sorely lacking in gaze. We rarely feel gazed upon or exposed to a gaze. The world presents itself as a pleasurable sight that seeks to please us. The digital screen also lacks any quality of gaze.

Windows is a window with no view. What it does is precisely to shield us from the gaze”⁵².

What stems from the gaze is paranoia, a paranoia of being constantly gazed upon, and paranoia is a sickness that does not apply anymore to our times, because in order for it to develop in an individual, there is the need of the Other who gazes. Nowadays, the sickness that is developed in individuals is depression. “A depressive person inhabits a gazeless space in which no experience of the Other is possible”⁵³. Living in a gazeless place is also found to have a side that lets the individual think he can behave as he wants. Han develops the concept of Panopticon described by Jeremy Bentham. Our society can be compared to the Panopticon prison, where inmates are exposed to the overseer gaze, without knowing when and if he does and without having the

⁴⁹ *Ibid.*, 25.

⁵⁰ *Ibid.*, 26.

⁵¹ *Ibid.*, 36.

⁵² *Ibid.*, 48.

⁵³ *Ibid.*, 45.

possibility to look at him, since he is hidden in a high tower. Our realm of today, embedded with social media, can be described as a digital panopticon, where freedom is not restricted but exploited.

In the last chapter of the book, Han underlines the importance of listening and being listened to, the need of everyone to be recognized as Other by someone else and be listened to and understood. Social media society is indeed often assimilated with the story of Narcissus, where the voice of the nymph Echo resembles the voice of the Other that Narcissus, and nowadays' social actor, does not return. If today no one is listened to anymore, is also due to the fact that no one wants to be listened anymore: "Digital communication fosters an expansive, de-personalized communication that has no need of a personal counterpart, no need of a gaze or a voice. We constantly send messages on Twitter, for example. But they are not directed at a concrete person. They mean no one. Social media do not necessarily foster a culture of discussion. They are often affect-driven"⁵⁴. If we think about it, on social media we post photos or thoughts that are indeed not directed to anybody of to any kind of goal. But from the point of view of an user, that very message or picture posted on one's social profile can be reason of inspiration and then need of conformation. In the case of cryptocurrencies, there are many social media communities where ideas are shared and that are then translated in market movements, but I will further develop this analysis in the next paragraph.

The last pages of the book have the goal to ultimately expose the isolation that stems from internet usage and criticizes these communities of people on the web, in which the members feel extremely connected: "Without the presence of the Other, communication degenerates into an accelerated exchange of information. It creates no relationship, only connection. Without neighborliness, without listening, no community can form. Community is listenership"⁵⁵; the reason for which fake news spread so easily and why social media indeed influences the financial behavior of social actors, is that "In the community of the 'like', one encounters only oneself or like-minded persons. Thus, no discourse is possible"⁵⁶; if there is no discourse there is no discussion and if there is no discussion no idea is doubted or reasoned on, it is merely accepted as what it is because it reflects our thoughts and assumptions, hence we do not see or feel the need to better analyze or verify this information. Another reason for this lack of

⁵⁴ *Ibid.*, 69.

⁵⁵ *Ibid.*, 69

⁵⁶ *Ibid.*, 69.

discussion and confrontation is that “Everyone is ashamed and simply blames themselves for their weakness and inadequacy”⁵⁷, because every personal success, and unsuccess, is displayed for the whole world to see.

Thanks to Han analysis I feel it has been possible to underline how the group of which Freud talked about and that I cited in the previous chapter form, and how even though we are all part of one or more communities online, we are ultimately alone and isolated, either narcissists or depressed.

The concepts exposed by Han in his book, it could be argued that may give an interpretation or simply describe the way in which individuals are made subjects of the society and in need of a leader. The leader they look for is found in the Other, that is not necessarily a physical person but rather the self-gratification given from the unknown Others on social media that rise our esteem with their likes. The we-mode, it could be argued, stems from a feeling of isolation, escaped by feeling recognized as and being part of a greater community. The, allow me to define it so, problem is that our digital era is also reflected and enacted in our real lives: influencers with millions of followers are not really more important or better than us, but we perceive them so. A photo is a great photo even though it does not get thousands of likes on Instagram or wherever. The point is that, as Han stated, nowadays money defines our identity and security and social media promise or try to lure the user into thinking that he could make money overnight and fulfill his lifetime dream, in a hyper fast way.

What I want to underline with this is that as making money and building a fortune requires time and real hustle, also our lives should be lived giving importance to time and to what is real: according to the firm App Annie, a platform for app analytics, people on average spend 4.8 hours a day on their phone, which more or less accounts to a third or more of their waking time, and of this time, 7 out of 10 minutes are spent on social media apps.

⁵⁷ *Ibid.*, 70.

- Markets and social media

To fully understand the magnitude of the effect on markets of social media, I feel necessary to first define what a market and what a market economy is.

A market could be defined, according to Investopedia, “a place where parties can gather to facilitate the exchange of goods and services. The parties involved are usually buyers and sellers. The market may be physical like a retail outlet, where people meet face-to-face, or virtual like an online market, where there is no direct physical contact between buyers and sellers”⁵⁸. A market economy instead, always according to Investopedia, is “an economic system in which economic decisions and the pricing of goods and services are guided by the interactions of a country's individual citizens and businesses”⁵⁹. Modern society are not completely market economies, because that would mean that the market movements would be only defined by offer and demand, without state intervention. Nowadays’ economies can hence be defined mixed economies, where – still according to Investopedia – there is economic freedom regarding capital usage but there is also governmental intervention.

In the paper called “Financial Markets and Social Media: Lessons from Information Security”⁶⁰, Claudia Biancotti (Director at Bank of Italy) and Paolo Ciocca (a non-resident scholar in the Cyber Policy initiative) analyzed how markets, especially in the last few and in the future years, have been and will be influenced by social medias.

The analysis carried out in the paper starts with the example of GameStop Corp. stocks, which was also cited in the first chapter of this paper.

⁵⁸ Kenton, W. *What is a market?* Investopedia. 2022.

⁵⁹ Team, T. I. *What is a market economy?* Investopedia. 2022.

⁶⁰ Biancotti, C., & Ciocca, P. *Financial Markets and social media: Lessons from information security.* Carnegie Endowment for International Peace. 2021.

The shares of GameStop Corp. reached an all-time high of \$483 on January 28, 2021, and they were trading at \$20 just two weeks back. Due to this apparently unexplained event, an investigation by the SEC⁶¹ and a congressional hearing in Washington took place.

The conclusion reached by the investigations was that the “dramatic increase in their share price in January 2021 happened as bullish sentiments of individual investors filled social media”⁶².

This bullish sentiment was mainly spread on the platform called Reddit, which is among the most popular for market-and-NFT-related discussions, creating what was later defined “Main Street versus Wall Street” narrative, with the former representing the individuals and small investors and the latter the big financial institutions.

What Claudia Biancotti and Paolo Ciocca warn us about is that with the ever more growing participation of younger generations in financial markets, the influence of social media is and will be a fact and hence policymakers have to quickly act to avoid the spread of disinformation, fake news and manipulation of human behavior that could potentially compromise the financial stability and integrity of the market, in favor of market transparency and efficiency.

In the last few years, there has been a great increase in nonprofessional trading and in fintech apps: the research firm Apptopia conducted a research⁶³ regarding this matter and found out that trading apps that are not connected to any investment firm or brokerage had a 126% increase between 2015 and 2019, which increased even more in 2020-2021. The trading app Robinhood is an example of this phenomena: in June 2021 the announced their IPO, stating that they have reached 18 million funded accounts⁶⁴ on their platform, even though their price after the first quarter decreased of almost 10% from the IPO price of the stocks.

⁶¹ “SEC Staff Releases Report on Equity and Options Market Structure Conditions in Early 2021,” U.S. Securities and Exchange Commission, October 18, 2021.

⁶² Biancotti, C., & Ciocca, P. *Financial Markets and social media: Lessons from information security*. Carnegie Endowment for International Peace. 2021.

⁶³ Blacker, A. “Robinhood Now Has More Mobile Monthly Active Users Than the Top Legacy Providers Combined,” Apptopia, January 6, 2020.

⁶⁴ “United States Securities and Exchange Commission, Form S-1 Registration Statement, Robinhood Markets, Inc.,” U.S. Securities and Exchange Commission, July 1, 2021.

As I was previously saying, Reddit is one of the most used social media to discuss financial investments, crypto ones in particular, where great group of traders can target small stocks or emerging cryptocurrencies and can considerably affect their market price.

The authors cite the “wallstreetbets” community, that between before and after the GameStop Corp. phenomena grew from 2 to 10 million users in less than six months.

Because of this the need to hasten policymaker to take actions towards a regulation of financial-related information sharing on social media. “Hostile actors can leverage features of online platforms to covertly nudge unaware users toward opinions and actions that serve destructive agendas”⁶⁵.

The impact and influence of social media on social actors is then here re-analyzed to underline how they can lead individuals into “rabbit holes”, continuously exposing them to fake news and confining them in “Filter Bubbles”. A “Filter Bubble”, as stated in the Cambridge dictionary, is “a situation in which someone only hears or sees news and information that supports what they already believe and like, especially a situation created on the internet as a result of algorithms that choose the results of someone’s searches”⁶⁶. The power of these fake news and information is also fostered by the presence of fake accounts and “Troll Factories”, that are groups of individuals paid to post comments online and create the illusion of great communities⁶⁷. An example of this kind of community is the “50 cent Army”, a group of state-backed internet commenters that were given this name because of the popular conviction that these individuals were paid “wu mao” (50 cent in Chinese) per every pro-Communist Chinese Party post, even though this belief has then been proven wrong⁶⁸.

In the conclusion of their paper, Biancotti and Ciocca ultimately underline how the whole financial system has a vulnerability right now and could be a potential target, and even though in several jurisdictions there are already plenty of cybersecurity laws they are regarding a very

⁶⁵ *Technology and Social Change Research Project Team, “The Media Manipulation Casebook,” Harvard University, 2018.*

⁶⁶ *Filter bubble. FILTER BUBBLE | definizione, significato - che cosa è FILTER BUBBLE nel dizionario Inglese - Cambridge Dictionary. (n.d.).*

⁶⁷ *Biancotti, C., & Ciocca, P. Financial Markets and social media: Lessons from information security. Carnegie Endowment for International Peace 2021.*

⁶⁸ *Lau, J. Who are the Chinese trolls of the '50 cent army'? VOA. 2016.*

narrow scope for the threats of the present: it should be expanded from unauthorized access, data exfiltration, ransomware to malicious information operations as well⁶⁹.

To further understand the relationship between social media and cryptocurrencies market, I will cite another study regarding this matter.

In their paper called “How are Twitter activities related to top cryptocurrencies’ performance? Evidence from Social Media Network and Sentiment Analysis”⁷⁰, Han Woo Park and Youngjoo Lee analyzed how the “social contagion” or “social influence” of social media affect market prices and fluctuations of cryptocurrencies. The study is one of the first made on the subject, since the vast majority of papers are regarding the engineering issues of cryptocurrencies.

But some studies regarding the social media relevance in cryptocurrencies market price affection have been made, like for example by Matta, Lunesu and Marchesi⁷¹, that in 2015 found out that the volume of tweets and google trend data was correlated with bitcoin price’s volatility and variations.

Social Network Analysis is “the process of investigating social structures through the use of networks and graph theory”⁷², basing on the conception that social media are composed of nodes – the individual actors – and ties – the connection between the actors -. The goal of the paper’s research is to investigate what kind of tweets can be associated with the market performance of

⁶⁹ Biancotti, C., & Ciocca, P. *Financial Markets and social media: Lessons from information security*. Carnegie Endowment for International Peace. 2021.

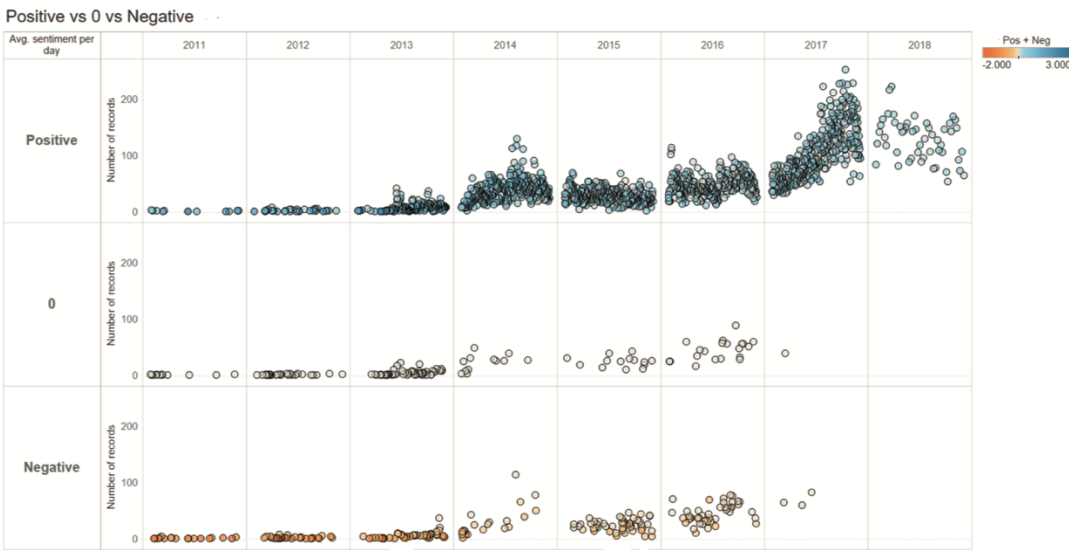
⁷⁰ Park, H. W., & Lee, Y. *How are twitter activities related to top cryptocurrencies' performance? evidence from social media network and sentiment analysis*. *Drustvena Istrazivanja*, 28(3), 435–460. 2019.

⁷¹ Matta, M., Lunesu, I., & Marchesi, M. *The predictor impact of web search media on Bitcoin trading volumes*. *Proceedings of the 7th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*. 2015.

⁷² Park, H. W., & Lee, Y. *How are twitter activities related to top cryptocurrencies' performance? evidence from social media network and sentiment analysis*. *Drustvena Istrazivanja*, 28(3), 435–460. 2019.

cryptocurrencies. They selected 74 cryptocurrencies accounts basing on the WEISS rating of 2018⁷³ and collected 97326 tweets and analyzed them using Social Network Analysis.

One of the most interesting graphs that can perfectly show the growing positive sentiment regarding cryptocurrencies is the following (Figure 1)⁷⁴:



Just to point out, to underline the accuracy of this analysis, 2017 was the year when bitcoin reached the first all-time high on 15th December of 16’721,77 \$ which was only reached and overcame 3 years later, exactly around 15th and 18th of December 2020.

The findings of this study support the initial argument that an evaluation of a given crypto asset may be more accurate if taking in consideration the social media presence of the crypto as well. The crypto market is hence considered as a “complex social system”, where the bullish trend of

⁷³ Weiss ratings. Weiss Ratings. (n.d.).

⁷⁴ Figure 1: FIGURE 6 Temporal analysis of sentiments of cryptocurrency tweets, Park, H. W., & Lee, Y. How are twitter activities related to top cryptocurrencies' performance? evidence from social media network and sentiment analysis. *Drustvena Istrazivanja*, 28(3), 435–460. 2019.

the market can be related to upbeat sentiments on social media like twitter, but the scholars do not feel to conclude that this relation is actually accurate and reliable.

To conclude their paper the scholars point out the necessity to create a new comprehensive index, “constructed to reflect the influence, status, and public interest in cryptocurrency in social media”⁷⁵.

In light of all the findings reported by all of the afore mentioned, it could be argued that it has been found out that social media affect enormously both the lives and psychology of individuals and by doing so they also affect the markets. This consequence is indeed also highlighted in the paper entitled “Stock market prediction using machine learning classifiers and social media, news”⁷⁶, Wasiat Khan, Mustansar Ali Ghazanfar, Muhammad Awais Azam, Amin Karami, Khaled H. Alyoubi and Ahmed S. Alfakeeh pointed out that the accuracy of a ten-days prediction based on social media sentiments analysis and interpretation is of 80.53%, while the ones made by interpreting and studying financial news is at 75.16%.

⁷⁵ Park, H. W., & Lee, Y. *How are twitter activities related to top cryptocurrencies' performance? evidence from social media network and sentiment analysis.* *Drustvena Istrazivanja*, 28(3), 435–460. 2019.

⁷⁶ Khan, Wasiat, Mustansar Ali Ghazanfar, Muhammad Awais Azam, Amin Karami, Khaled H. Alyoubi, and Ahmed S. Alfakeeh. “Stock Market Prediction Using Machine Learning Classifiers and Social Media, News.” *Journal of Ambient Intelligence and Humanized Computing*, 2020.

3. ECONOMIC OUTCOMES ON THE MARKET

In this last chapter what I care to point out is, in light of all the papers and studies cited, and with others that I will talk about, how the social media and social structure effects are reflected on the market, both in the day-to-day life trades and economic relations and on the web and stock market.

- **Impact of social structure and social media on society and economy**

The first scholar that I feel appropriate to talk about since he tries to tangle this question is Mark Granovetter, that in his 2005 paper entitled “The Impact of Social Structure on Economic Outcomes”⁷⁷ makes a thorough analysis from many points of view.

He starts off the analysis asserting that social media influence the economic outcomes for three main reasons:

1. they affect the flow and the quality of information, taking advantage of the inner circles of people that are created on social media.
2. they are an important source of reward and punishment, as also stated before, where rewards are very easily obtainable.
3. they create a sense of trust among and towards people we barely know.

What are then pointed out are the four most important core principles of this relationship between social media and networks and economic outcomes.

The first regards **Norms and Network Density**, and what Granovetter notices is that the denser a social network is, the more the norms that its members should abide to are evident and respected, and deviance from these very norms results hard.

⁷⁷ Granovetter, M. *The impact of social structure on economic outcomes. Journal of Economic Perspectives. 2005.*

The second core principle is regarding the **Strength of the Weak Ties**, referring to the importance of the people that we know but that are not part of our social circle, and that can hence give us the opportunity to receive novel information or confront with different points of view on different matters. As the very author puts it: “Moving in different circles from us, they connect us to a wider world”⁷⁸. These weak ties can result as very important when we want to escape our comfort zone or take advantage of opportunities in different social circles than ours; for example, a weak tie may be fundamental to find a job, even though a close friend may be more interested in helping than a stranger. Looking at this jointing power of weak ties, according to the author it could be stated that if the whole society’s social groups are anyhow connected, that is thanks to weak ties.

The third core principle is found in the **Importance of Structural Holes**, that are a concept developed by Burt in his 1992’s paper called “Structural Holes: The Social Structure of Competition”⁷⁹, which is basically a reformulation of the concept of weak ties: what Burt emphasizes is the unparalleled importance of the way in which weak ties link different social circles, underlining the fact that individuals with ties into multiple networks may have a strategic advantage on those who are only part of a given network. By this he supposedly means that in order to fully take advantage of the social structure itself, one must be part of it as a whole, of many of the different subsets that compose society. The importance of structural holes then relies on the fact that these weak ties represent the only possible way in which information are transmitted, and these weak ties do so by taking advantage of these structural holes, or missing links, among society.

The fourth principle is the **Interpretation of Economic and Non-Economic Action**, meaning that when social life, that revolves around non-economic activities, gets mixed up with economic activities, the former can affect the cost of the latter. This is a pretty tough concept to understand, that the same Granovetter has defined as “Social Embeddedness” of the economy, in his paper

⁷⁸ Ibid., 33-36.

⁷⁹ Burt, R. *Structural Holes: The Social Structure of Competition*. Cambridge, Mass.: Harvard University Press. 1992.

called “Economic Action and Social Structure: the problem of Embeddedness”⁸⁰; underlying the “extent to which economic action is linked to or depends on action or institutions that are non-economic in content, goals or processes”⁸¹. To sustain this thesis Granovetter stated that there have been many authors who tried to tangle this social embeddedness and that one of the first ones was Karl Marx, who in the first chapter of his Communist Manifesto predicted that under modern capitalism all kind of relationships will be subordinated to the “cash nexus”, which can be identified with, according to Oxford Reference, “The reduction (under capitalism) of all human relationships, but especially relations of production, to monetary exchange”⁸².

Granovetter’s analysis then goes on investigating the relationship between social structure and different aspects of society, the two most interesting, in my opinion, are the one regarding the relationship with prices and productivity and compliance.

While analyzing the impact of social structure on prices, the first example presented by the author is about how friendship or knowing each other can actually influence the price of a given object or service.

He then cites the economic flexibility, of the system, which “depends on the social structure of the trade relation”⁸³ and cannot be predicted without knowing the social structure.

But this influence on prices is not only found in trade among peers and common people: in Uzzi’s 1999⁸⁴ study on midmarket banking the scholar showed how Chicago firms with personal contacts with bankers paid lower interest rates than the others, and that the same bankers cultivate these kinds of acquaintances as a business strategy.

The final and most interesting feature highlighted in this section that I found very interesting was the fact that in the 1996 general social survey it was shown that for the goods of difficult

⁸⁰ Granovetter, M. “Economic Action and Social Structure: The Problem of Embeddedness.” *American Journal of Sociology*. 91:3, pp. 481–510. 1985.

⁸¹ Granovetter, M. *The impact of social structure on economic outcomes*. *Journal of Economic Perspectives*, 19(1), 33–36. 2005.

⁸² *Cash nexus*. *Oxford Reference*. (n.d.).

⁸³ Sahlins, M. D. *Stone Age Economics*. Chicago: Aldine-Atherton, pp. 313. 1972.

⁸⁴ Uzzi, B. “Embeddedness in the Making of Financial Capital: How Social Relations and Networks Benefit Firms Seeking Financing.” *American Sociological Review*. August, 64, pp. 481– 505. 1999.

assessment – used cars, legal advice and home repair – one quarter to half of the purchases in the US were made through personal networks. And, as pointed out by the scholars DiMaggio and Louch⁸⁵, it was found out that the people who did these purchases via their personal network, believed they received better prices from their personally knows sellers and report greater satisfaction.

In the section which talks about productivity and compliance, what the author wants to enhance is how social relations are extremely closely linked to productivity: meaning that the social position of an individual could be of crucial importance for the productivity of a whole group of people or community, just think about the leader and the need of leadership in followers that Freud talked about.

For example, productivity and ability to product can even be a reason of endorsement and social recognition: as studied by Sabel, who analyzed the social structure of craftsmen, what was most valued in their world was technical prowess, because for them “titles are not important, savoir faire is”⁸⁶.

The second scholar I would like to talk about, to further sustain the thesis of social media’s influence on the economy, is Zheyu Cui: In his paper, entitled “Analysis of the Impact of Social Media on the Economy”⁸⁷, Zheyu Cui analyses the impact of social platforms like TikTok, affect the economy and the way of doing business: “social media opens up a new way of living and doing business, and it will continue to develop in the future”⁸⁸.

In this article the goal was to understand the impact of social media on economic growth and how it could be used from business owners to increase the purchasing power, in the so-called New Media era.

⁸⁵ DiMaggio, P. and Louch H. “Socially Embedded Consumer Transactions: For What Kinds of Purchases do People Most Often Use Networks?” *American Sociological Review*. 63:5, pp. 619–37. 1998.

⁸⁶ Sabel, C. F. *Work and Politics : The Division of Labor in Industry*. Cambridge, UK: Cambridge University Press. 1982.

⁸⁷ Cui, Z. *Analysis of the impact of social media on the economy*. *Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021)*. 2021.

⁸⁸ *Ibid.* 3062.

One of the aspects of social media that the author points out straight away is how it was conceived as a way for users to connect and keep in contact with their friends and became in the last few years a way to gather enormous amount of data – called Big Data – that could be used for almost any type of targeting both for marketing and political purposes. Through social media platforms individuals can still connect and share pictures or opinions with their friends, but social media are even being used every day more to promote products and businesses to the appropriate audiences, identified by the algorithms that analyze and interpret all the big data that the users provide on a daily basis. According to Cui, the wealth of a country can be understood by the social media usage density: “the greater the user density, the wealthier the place, and vice versa”⁸⁹.

Going back to the concept of new and traditional media era, the author points out the main differences among the two: while the former values individuals and spread quickly, the latter relies on the channels of information dissemination, with a very limited personalization of the news. Valuing individuals means that the information spread via these new media are ad hoc information for the users who receive them, and they receive them because the data the algorithm gathered from their social media usage put them in that given category or user audience for that particular news: it could be argued, according to Cui, that social media provide users with some kind of private platform, designed especially for each and every user of every social media platform. Users other than reading a given news or discovering a new information can also share it with their network, and further spread the information.

What the author points out is that as with information sharing and gathering, social media can also be a way of communicating between consumers and businesses and can be a very solid foundation for long-term marketing, thanks to the “like economy”⁹⁰, that can allow businesses to increase their sales and objectively represent their popularity to the public.

⁸⁹ *Ibid.* 3062

⁹⁰ Gerlitz, C. and Helmond A. "The like economy: Social buttons and the data-intensive web." *New media & society*: 1348- 1365. 2013.

To further sustain his thesis Zheyu Cui also gathered data on business owners and their presence on social media finding out that 91% of them opened at least two social platforms and that this intertwining of social media and business owners can be a way to fill market vacancies and offer jobs, fostering productivity and lowering unemployment: as a result of this, the society can be found to be more stable and the economy is put on a development path, where a potential market is opened by social media for “every user they have and present the product or service directly to the potential buyers”⁹¹. The potential buyers are not identified by the business owners but, as previously stated, from algorithms that gather and interpret data on social media users every day, increasing the exposure of users to information they potentially like and relying on their feedback it tailors the scope of the proposed adverts.

It can be asserted that these ads and more in general social media are becoming increasingly more a part of the social lives of users as well, becoming a new and cost-effective marketing method, with a “high quality of information dissemination”⁹², greatly valued by business owners: as a result, social platforms have become the most important part of some businesses and corporate marketing firms.

But this accuracy of information comes at a cost: social media acquire users’ information and data, making their lives and interests transparent to strangers, friends, and corporations⁹³.

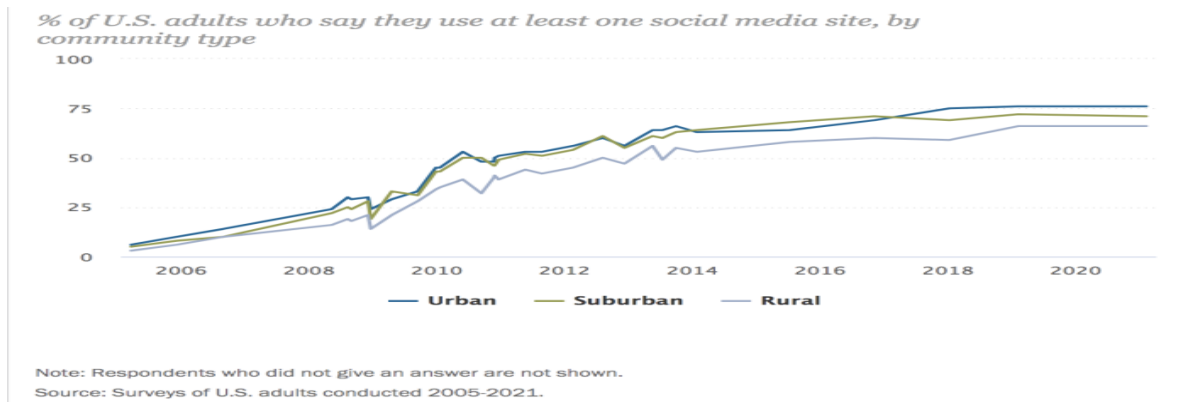
The analysis then develops again on the concept of user density and welfare of a country, in particular regarding US: it was found by the author that in the urban area, 76% use at least one social media, this percentage lowers to the 71% in the suburban area and falls to 66% in the rural area, as shown in the FIGURE 2⁹⁴.

⁹¹ Cui, Z. *Analysis of the impact of social media on the economy. Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021)*. 2021.

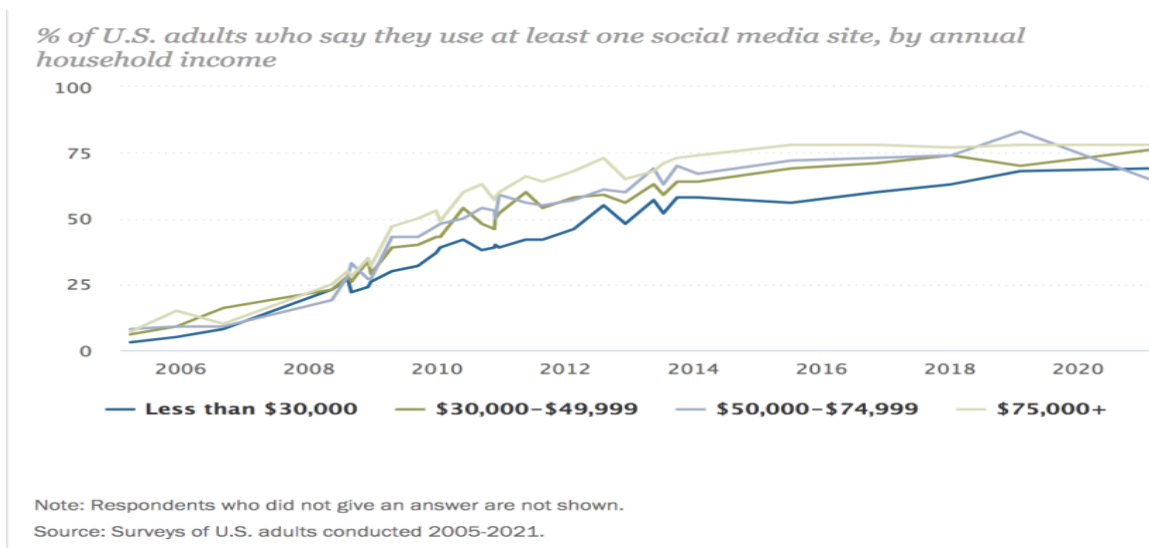
⁹² Yang, J., Zhang J. and Zhang Y. "INFLUENCER VIDEO ADVERTISING IN TIKTOK." *MIT initiative on the digital economy*, vol.4. 2021.

⁹³ Leonardi, P. M. "Social media, knowledge sharing, and innovation: Toward a theory of communication visibility." *Information systems research*: 796-816. 2014.

⁹⁴ Figure 2: % U.S adults who say they use at least one social media site, by community type, from the pew research center, *Social Media Fact Sheet*. 2021.



The analysis then develops not on the geographical distribution of social media users, but on their social class: it was indeed found that most of the people that frequently use social media, usually belong to middle or high-income classes and usually reside in urban areas: according to the same above mentioned survey – based this time on annual income and not the geographical location of the user- , and as shown in FIGURE 3⁹⁵, there are 78% of the respondents that belong to the \$75000+ annual income group that use at least one social media app, 76% in the \$30000 - \$49,999 annual income group, 69% in the lower than \$30,000 annual income group and 65% in the \$50,000 – \$74,999 annual income group.



⁹⁵ Figure 3: % U.S adult who says they use at least one social media site, by annual household income , from the pew research center, Social Media Fact Sheet. 2021.

The higher level of purchasing power of higher income households is expressed in their greater use of social media platforms, that causes the consumption levels of these households to rise. A way to reach any kind of consumer is a social platform that recently became the reason for the blowing up of many businesses and influencers: TikTok.

TikTok is a more convenient and less costly platform than the other and surely is way more convenient than the traditional media: in order to gain a great number of followers and influence users on TikTok must try to create interesting content, that hopefully becomes viral: the creation of interesting content could allow a business to stand out from his competitor and become internationally known and recognized.

TikTok has become one of the leading platforms because of the enormous number of users it has and because of the great scope of the reach of influencers' advertisements. The great influence of any type of advertising posted by influencers is reflected by the astonishingly high fees that they get paid for a single post, as shown in FIGURE 4⁹⁶, creating new career paths for the future generations.

Rank	TikTok username	Followers	Estimated earnings per post
1	charlidamelio	45,900,000	\$73,510 (US \$45,863)
2	lorengray	42,000,000	\$67,275 (US \$41,973)
3	zachking	39,600,000	\$63,622 (US \$39,694)
4	riyaz.14	34,200,000	\$54,986 (US \$34,306)
5	babyariel	31,900,000	\$51,065 (US \$31,860)
6	addisonre	31,200,000	\$50,028 (US \$31,213)
7	spencerox	27,100,000	\$43,534 (US \$27,161)
8	gilmhercroes	25,600,000	\$41,070 (US \$25,624)
9	_arishfakhan_	24,100,000	\$38,587 (US \$24,075)
10	kristenhancher	23,600,000	\$37,829 (US \$23,602)

⁹⁶ Figure 4: O'Brien, V. *Here's Exactly How Much The Top TikTokers Get Paid & Yep, Should Have Kept Up Dance Lessons.* Pedestrian. 2021.

To conclude his article Zheyu Cui states that with the development of the usage of these platforms there will always be potential buyers for business owners, that thanks to social platforms can access to an open market that has both reduced the cost of small businesses and improved the sales opportunities. The fact that users can interact with the brands they like is a fundamental aspect, since it improves product quality, users' loyalty and satisfaction.

To summarize, the author argues that social media actually do promote economic development and market efficiency and have an important impact on our modern economy which will increase ever more with the passing of years.

- **Impact of social structure and social media on the crypto and stock market**

In this last section the goal will be to really understand practically the extent to which social media affect cryptocurrencies and stocks prices.

The scholar I want to cite to reach this goal is Zachary Ludwig, of the Horace Mann School of New York's Bronx, who in his paper entitled "An Analysis on how Social Media Impacts Financial Markets"⁹⁷ tried to expose whether tweets increase stock and cryptocurrencies prices and for how long these impacts last, underlining the close link between twitter tweets and relative crypto coins and stocks market movements.

To achieve his goal, the author used data on twitter posts combined with daily stock prices, finding out that tweets often have an impact on cryptocurrencies that often lasts for up to three days after being posted, while the impact on the traditional stocks is nonexistent.

Social media are seen as a mean of distribution and sharing-hub for any type of news, both financial and not, giving the opportunity to experts to transmit their useful and studied information to the general public that, other than to the experts, is also exposed to non-expert actors, that can often try to inflate or deflate the price of a given coin.

⁹⁷ Ludwig, Z., & Perkowski, P. *An analysis of how Twitter Impacts Financial Markets. Journal of Student Research, 10(3). 2021.*

The twitter usage is enormous: it has 206 million daily active users, mostly from US and Japan, as found out by Statista in 2021⁹⁸, that post up to 350,000 tweets per minute, as found out by Sayce in 2020⁹⁹. Furthermore, as found out by Shearer and Matsa in 2018¹⁰⁰, was that 71% of the US adults using twitter rely on it as a source of news.

The analysis of the tweets is based on four different accounts that often mention cryptocurrencies or traditional stocks in their tweets, from July 2021, that are shown in TABLE 1¹⁰¹:

Name	Account	# of Tweets	Sample Tweet Text
Elon Musk	@elonmusk	4	Baby Doge, doo, doo, doo, doo, doo, Baby Doge, doo, doo, doo, doo, doo, Baby Doge, doo, doo, doo, doo, doo, Baby Doge
Tyler Win- klevoss	@tyler	7	Tez \$XTZ is now available on @Gemini for trading. 👍🚀
Jason A. Moser	@TMFJMo	11	Large market opportunity (\$18.5B) compared to annual revenue (\$200M), profitable (WTF?), network effects, big customers in healthcare orgs, pharma, recruiting. Marketing is 80% of the biz but they're diversifying. I'll go 7 for now & give the story some time to unfold. \$DOCS
Alexandria Ocasio Cortez	@AOC	4	In response to a Bezos quote thanking Amazon Employees for the Blue Origin Flight: Yes, Amazon workers did pay for this - with lower wages, union busting, a frenzied and inhumane workplace, and delivery drivers not having health insurance during a pandemic. And Amazon customers are paying for it with Amazon abusing their market power to hurt small business.

As shown in the table, 11 different stocks were mentioned and three different cryptocurrencies: Apple (APPL), General Electric (GE), Hasbro (HAS), PayPal (PYPL), Teladoc Health (TDOC), Docusign (DOCU), Amazon (AMZN), AppHarvest (APPH), McCormick and Company (MKS),

⁹⁸ Statista. 'Number of active Twitter users in selected countries,' Statista [Online]. 2021.

⁹⁹ Sayce, D. The number of tweets per day in 2020 [Online]. 2020.

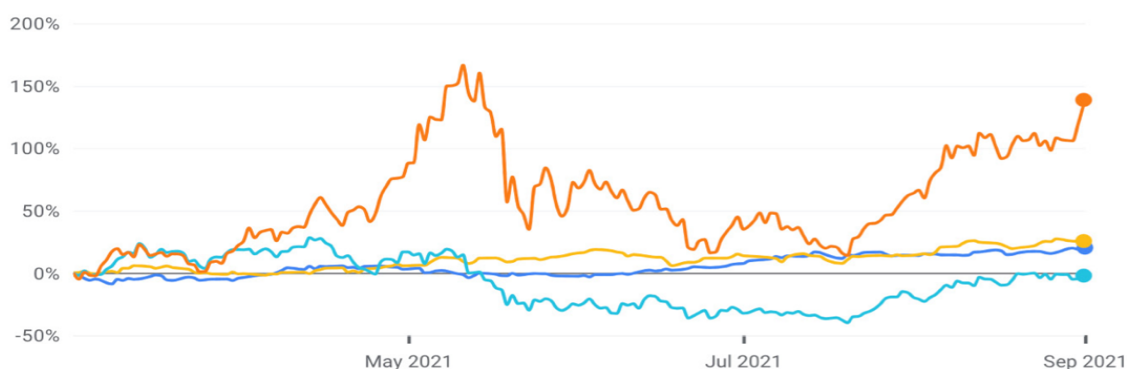
¹⁰⁰ Shearer, E. and Matsa, K.E. 'News use across social media platforms', Pew Research Center [online]. 2018.

¹⁰¹ TABLE 1 Ludwig, Z., & Perkowski, P. An analysis of how Twitter Impacts Financial Markets. Journal of Student Research, 2021.

Doximity (DOCS), and Exxon Mobil (XONA.DE), Dogecoin (DOGE-USD), Ethereum (ETH-USD), and Tezos (XTZ-USD) the relative prices of the stocks where gathered, on weekdays, from Yahoo Finance. The data collected were the opening and closing price on the day of the tweet and the closing prices of the two following days. Thanks to this data collection, the author was able to objectively grasp the short- and medium-term effect of tweets on stocks prices.

What Zachary Ludwig then underlines is firstly the definition of what a cryptocurrency is, according to Investopedia: “A digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology—a distributed ledger enforced by a disparate network of computers”¹⁰², to then point out that the total market capitalization is around \$2 trillion, of which the 24-hour trading volume is almost always between \$500 billion and \$1 trillion, almost 50% of total market capitalization, while the trading volume of the US market, according to Capital¹⁰³, is only about 15% of its total value.

This is underlined as the reason of the great volatility and rapid market movements of cryptocurrencies prices compared to stock prices and indexes’, as shown in FIGURE 5¹⁰⁴:



¹⁰² Frankenfield, J. ‘Cryptocurrency,’ Investopedia [Online]. 2021.

¹⁰³ Capital. ‘How much money is traded on the NYSE daily?,’ Capital [Online]. 2021.

¹⁰⁴ Figure 5: Price Change in Percent of APPL (Dark Blue), GS (Yellow), BTC-USD (Light Blue), and ETH-USD (Orange) over 6 Months, Ending September 1, 2021. Google Finance, 2021.

Bitcoin was the first crypto coin that started being used internationally. It was created in 2009, just five years after Twitter's release, as points out the author citing Martucci's 2021 study "What is cryptocurrency? How it works, history and Bitcoin alternatives"¹⁰⁵. This closeness of creation of twitter and widespread usage of Bitcoin is an interesting link to discover, since as the author himself argues, the age groups affected by these two major historical events are the same. In fact, as shown by the scholars Wojcik and Hughes in 2019¹⁰⁶, twitter users are usually aged below 50 and the average crypto trader is 38 years old. This age group is very different and with very different backgrounds from the usual stock trader, and it argued by the author that this is the very reason why twitter posts have a much greater influence on cryptocurrencies prices than stocks.

To achieve his goal Ludwig decides to do a difference-in-difference analysis, that is an empirical method that, according to Wikipedia, is "a statistical technique used in econometrics and quantitative research in the social sciences that attempts to mimic an experimental research design using observational study data, by studying the differential effect of a treatment on a 'treatment group' versus a 'control group' in a natural experiment"¹⁰⁷. In this case, the control group is represented by three index funds: the Dow Jones Industrial Average (^DJI), the Russell 2000 (^RUT), and the S&P 500 (^GSPC).

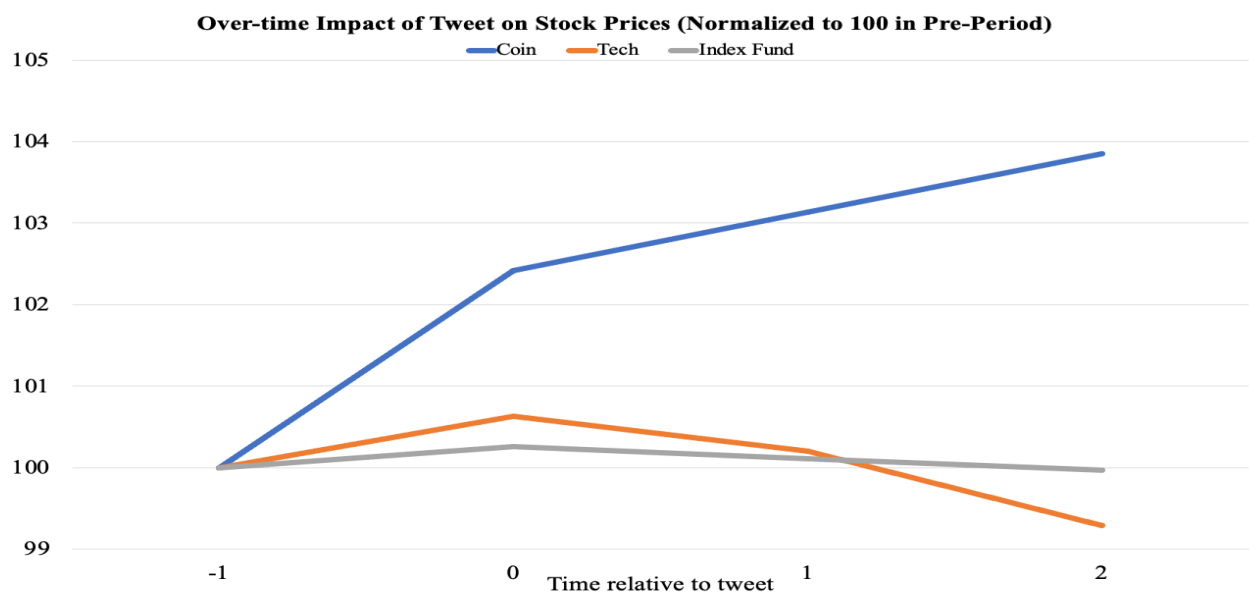
The result of this difference-in-difference analysis are reported in FIGURE 6¹⁰⁸, which displays the average stock price before and after the tweets regarding cryptocurrencies, stocks, and index funds.

¹⁰⁵ Martucci, B. 'What is cryptocurrency? How it works, history, and Bitcoin alternatives,' *Money Crashers [Online]*. 2021.

¹⁰⁶ Wojcik, S. and Hughes, A. 'Sizing up Twitter users,' *Pew Research Center [online]*. 2019.

¹⁰⁷ Wikimedia Foundation. *Difference in differences*. *Wikipedia*, 2022.

¹⁰⁸ Figure 6. *Average Stock Price Before and After Tweet*. Ludwig, Z., & Perkowski, P. *An analysis of how Twitter Impacts Financial Markets*. *Journal of Student Research*, 7. 2021.



As shown in the figure above, the effect of tweets is way more evident on cryptocurrencies prices – with an almost 2.5% increase - than in stocks prices and indexes, where the influence was of less than one percentage points, and this effect is not confined to the day of the tweet, but last for the following days as well. The result was that “both the average control and stock prices stay within a percentage point of the original and each other for the duration of the data, while by the end of day three, the price of coins was on average around four percent higher than both the original and the control”¹⁰⁹.

To conclude his analysis Ludwig asserts that, as he found out, tweets have a great impact on stocks that should not go unnoticed, since this effect can last for up to three days after the tweet and resulting in a price increase of almost 3%.

Among the different accounts that he cited, the most influential is found to be Tyler Winklevoss - an American investor, founder of Winklevoss Capital Management and the cryptocurrency exchange called Gemini -, whose tweets can result in an average price increase of 6%, and the reason for this is found in the fact that Winklevoss is a respected individual who is backed and trusted by investors.

¹⁰⁹ Ludwig, Z., & Perkowski, P. *An analysis of how Twitter Impacts Financial Markets. Journal of Student Research. 2021.*

It can hence be stated that Ludwig demonstrated this close link between social media and crypto volatility, even though he recognizes the limitedness of the scope of his research, since he used limited data in a limited time frame, only looking at one social media source.

But since this is one of the many scholars that focused on this matter, as for example the above-mentioned study of Park and Lee entitled “How are twitter activities related to top cryptocurrencies' performance?” I feel confident to assert that the effect of social media on stock and crypto coins prices is not only evident, but it will also most likely keep growing during the next years.

CONCLUSION

The evidence gathered and presented in this paper certainly show that there is an effective link between the social media platforms and the economy, both of the social actor and the society, that can and needs to be studied. What certainly is interesting is the great importance of *sentiment*, and how it affects investing decisions of market users.

One of the most important differences that was found out and underlined, was the dissimilarity of influence of social media on cryptocurrencies and stock market, due to the difference of the investors: in the first case, traders are not older than 38, as stated in Wojcik and Hughes' article¹¹⁰, and mostly get their financial information or opinions on social media, and can easily access the cryptocurrencies market from their phone. In the latter case, traders who operate on the stock market are more experienced and do not rely on news on social media but on traditional means of communication to evaluate their investments, furthermore, not everyone has access to the market and the market itself is not as volatile as the crypto one: as stated in Capital's article¹¹¹, while 50% of the total market capitalization of cryptocurrencies is traded daily, only 15% of the total market capitalization of stock market is traded daily, making the latter market way less volatile.

Other than being demonstrated to be existent, the effect of social media on crypto markets has a different impact depending on who says that particular thing about any given subject: as shown in Ludwig's paper¹¹², there was a variance between Elon Musk and Tyler Winklevoss' tweets influence on relative coins, with the former affecting positively a price of 6% after three days and the latter affecting negatively another one of 3%, always after three days. It can surely be a matter of great interest to further understand the reasons and processes behind the great influence of given tweets, while at the same time avoiding the ones created from bots, as analyzed in the above-mentioned article "Stock market prediction using machine learning classifiers and social

¹¹⁰ Wojcik, S. and Hughes, A. 'Sizing up Twitter users, Pew Research Center [online]. 2019.

¹¹¹ Capital. 'How much money is traded on the NYSE daily?', Capital [Online]. 2021.

¹¹² Ludwig, Z., & Perkowski, P. *An analysis of how Twitter Impacts Financial Markets. Journal of Student Research.* 2021.

media, news”¹¹³, machine learning classifiers can be used to predict market developments and, as they found out in their results, social media news have an accuracy of 80.53%, in spite of a 75.16% of traditional financial news.

From a behavioral point of view, the effect of social media on social actors is incredible and, it could be argued, frightening: other than allowing us to be connected with everyone from everywhere in the world, they also isolate us. Other than isolating us, they also make one question himself or herself. The number of teenagers with eating disorders, problem with their image or that harm themselves has risen of more than 70% over the last 25 years¹¹⁴, hence even some more research on how to bring back social media to be healthy instead of harmful may surely be interesting for the scholars of the future.

In conclusion, the effect of the social structure, via social media, has been underlined and the effects of the social structure on individual as well. There is still a very great margin of research to be done since the majority of papers regarding the particular relation between social media and markets are all of the last few years and, in a society which is moving towards a digitalization of our lives, really grasping and understanding the underlying process behind social media and behind the influence they have on social actor is surely not only important, but necessary.

¹¹³ Khan, W. Ghazanfar M. A. Azam M. A. Karami A. Alyoubi K. H. and Ahmed S. Alfakeeh. “Stock Market Prediction Using Machine Learning Classifiers and Social Media, News.” *Journal of Ambient Intelligence and Humanized Computing*, 2020.

¹¹⁴ “#StatusOfMind - RSPH | Royal Society for Public Health UK.” *Royal Society of Public Health* . 2017.

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HOW DOES THE SOCIAL STRUCTURE AFFECT THE FINANCIAL BEHAVIOUR OF INDIVIDUALS AND MARKETS THROUGH SOCIAL MEDIA – ITALIAN ABSTRACT

L'obiettivo della mia ricerca è stato quello di analizzare e capire come la struttura sociale, espressa tramite i social media, influenzi il comportamento – in particolare finanziario – degli attori sociali e il mercato stesso, sia di azioni che di criptovalute.

Per compiere questo studio mi sono avvalso di numerosi testi di diversi studiosi appartenenti a diversi periodi storici, partendo quindi da Locke e Freud e arrivando fino a Mark Granovetter e Abraham Maslow.

Nel primo capitolo, intitolato “Coscienza Umana e Social Media” (Human Consciousness and Social Media), partendo dalla domanda sull'esistenza o meno di modi in cui controllare, o quantomeno influenzare, la coscienza umana, provo a capire meglio cosa la coscienza umana effettivamente sia e come funzioni in principio, e come quest'ultima possa essere influenzata. Alla luce dei dati analizzati concludo il capitolo affermando che i social media riescono ad influenzare le nostre coscienze e i nostri comportamenti.

Per quello che riguarda il definire la coscienza umana e individuarne le diverse caratteristiche principali, mi affido alle riflessioni in merito di John Locke, così come riportato dal testo “Locke on Personal Identity”¹¹⁵ di Galen Strawson.

Per Locke, gli uomini possono essere definiti creature capaci di provare felicità o sofferenza, e di essere alla costante ricerca di stimoli esterni, che possano provocare o l'una o l'altra. La particolarità di questa descrizione è la affermazione, da parte di Locke, che la coscienza umana definisce l'identità: intendendo che la coscienza umana, tramite il tipo di preoccupazioni e il tipo di stimoli ricercati da parte dell'individuo, rappresenta la sua identità e il suo essere. Per cercare degli stimoli più adatti a lui però, Locke afferma anche che l'individuo deve innanzitutto conoscere sé stesso, come del resto aveva affermato anche Socrate con la sua famosa massima *nosce te ipsum*. Ci sono due modi per conoscere sé stesso: tramite le azioni o tramite i processi mentali – o *mental going-on*¹¹⁶. Nel primo caso, nel momento in cui compiamo una azione **consapevolmente**, questa deve inevitabilmente essere parte o una rappresentazione di quello che ci costituisce; allo stesso

¹¹⁵ Strawson, G. “Locke on Personal Identity.” Princeton University Press, 2017.

¹¹⁶ *Ibid.*, 65

modo, nel secondo caso, nel momento in cui compiamo un ragionamento **consapevolmente**, allora quel ragionamento deve essere una rappresentazione, in toto o in parte, di quello che è la nostra coscienza.

Inoltre, dal momento che questi stimoli vengono ricercati e allo stesso tempo compiuti all'interno della società, quello che individua Locke è la responsabilità civile e morale delle nostre azioni e, quindi, il carattere di responsabilità e preoccupazione dell'identità personale di ogni individuo.

Successivamente, grazie all'articolo di Cristina Becchio e Cesare Bertone intitolato "Wittgenstein Running: Neural Mechanism of Collective Intentionality and we-mode"¹¹⁷, è stato possibile trovare una prova empirica della collettività delle azioni, un concetto di Wittgenstein che ho ritenuto chiave per poter capire al meglio il meccanismo che si cela dietro l'influenza dei social media.

Questo concetto di azione collettiva – la *we-mode*¹¹⁸ - viene definito tramite due esempi, che riporterò brevemente:

- Nel primo caso, si tratta di una esperienza di Wittgenstein raccontata durante una lezione dello psicologo Philip Johnson Laird all'università di Princeton, dove fu professore: Wittgenstein doveva partire con una sua amica e dovevano prendere un treno, per il quale però erano in ritardo. Su consiglio di quest'ultima iniziano entrambi a correre verso il binario, e Wittgenstein, essendo più veloce della amica, riuscì ad arrivare e salire sul treno che stava partendo, lasciando l'amica a terra.

Questo esempio viene riportato per far capire come è possibile contagiare le intenzioni altrui: l'obiettivo di Wittgenstein non era quello di salire sul treno da solo, ma il suo comportamento è stato determinato da quello della amica, che correndo e mettendo fretta ad entrambi ha fatto scaturire questa azione.

- Il secondo caso invece riguarda un esempio di un altro filosofo, John Searle¹¹⁹, che viene riportato per far capire che le intenzioni collettive non sono sempre il risultato di "contagi", ma può capitare che determinati fattori possano portare tutti ad agire nella stessa maniera,

¹¹⁷ Becchio, C. and Bertone C. "Wittgenstein Running: Neural Mechanisms of Collective Intentionality and We-Mode." *Consciousness and Cognition* 13, no. 1: 123–33. 2004.

¹¹⁸ *Ibid.*, 123.

¹¹⁹ Searle, J.R. "The Construction of Social Reality." *Penguin Philosophy*, 1995.

senza nessuno scopo collettivo: l'esempio riguarda un gruppo di persone in un parco che, quando inizia a piovere, si dirigono tutte verso un unico luogo, che tutte identificano come riparo dalla pioggia.

Questo caso è differente dalle azioni nate e pensate con uno scopo collettivo.

La differenza analizzata da Searle porta alla identificazione del “problema dell'irriducibilità”¹²⁰, ovvero che nessuna azione collettiva può essere ridotta a una intenzione singola e viceversa.

Per poi analizzare al meglio quello che sono i processi che portano un gruppo di individui ad affidarsi e seguire un leader, adottando una mentalità di gruppo, e i processi di quella che è la mentalità di gruppo, non ho potuto pensare ad uno studioso migliore di Sigmund Freud, che nel suo libro “Psicologia delle Masse e Analisi dell'Io”¹²¹, affronta sia il concetto di inconscio, ovvero quella parte dell'essenza di ogni individuo che in qualche modo ne regola le azioni, e sulla quale l'individuo non ha alcun tipo di controllo, sia quello di mentalità collettiva.

Sigmund Freud afferma che ogni individuo ha un ristretto circolo di persone delle quali si fida enormemente e dalle quali è altamente influenzato. Questo tipo di influenza viene poi ritrovata anche da parte del gruppo - o gruppi - di persone delle quali un individuo decide di circondarsi e con le quali il forte sentimento ritrovato nella famiglia o nella confidenza di lunga data è rappresentato dall'idea in cui crede il gruppo o da qualunque altro tipo di sentimento condiviso.

Per definire meglio quella che è la mentalità di gruppo, nel secondo capitolo del libro Freud cita Gustave Le Bon, uno psicologo, antropologo e sociologo francese che spiega come gli individui, nel momento in cui iniziano a far parte di un gruppo, spesso e volentieri cominciano a ragionare in un modo diverso, un modo collettivo, ad agire in modo diverso da come avrebbero agito se fossero stati invece in solitudine. Inoltre, sempre secondo Le Bon, nel momento in cui entra a far parte di un gruppo, ogni individuo retrocede socialmente, dato che i componenti di un gruppo agiscono istintivamente, senza ragionamento, a differenza di un individuo solitario; all'interno di un gruppo le persone vengono quindi definite come impulsive, altamente irritabili e facilmente influenzabili in quanto, come concordano entrambi gli studiosi, il gruppo “ha bisogno di illusioni e non può farne a meno”¹²².

¹²⁰ *Becchio, C. and Bertone C. “Wittgenstein Running: Neural Mechanisms of Collective Intentionality and We-Mode.” *Consciousness and Cognition* 13, no. 1: 126. 2004.*

¹²¹ *Freud, S. *Psicologia Delle Masse e Analisi Dell'io*. Torino: Einaudi, 2013.*

¹²² *Ibid.*, 19-20.

Il potere del leader viene ritrovato nelle parole che usa, capaci di suscitare o meno un sentimento nei suoi seguaci, e Freud aggiunge inoltre che ogni gruppo ha un così grande “bisogno di obbedire a un leader che si affida istintivamente a chiunque si dichiari e si ponga come tale”¹²³ e specifica anche quella che è la particolarità che permette al leader di porsi al di sopra dei suoi adepti: il prestigio.

Il prestigio di una persona, secondo Freud, può essere di due diverse tipologie: può essere personale, ovvero appartenere ad una persona con un tale carisma e tali caratteristiche da permettergli di sottomettere ogni persona al suo volere, o può essere acquisito o artificiale, oppure derivato da nome, reputazione o appartenenza sociale di una persona. Questa seconda tipologia di prestigio, in confronto alla precedente, ha meno influenza, in quanto è spesso derivata dal passato e quindi non è attribuita al soggetto in quanto sua caratteristica personale.

Nell’ultima parte del primo capitolo, ricollego i concetti di coscienza umana, *we-mode* e psicologia delle masse a molti fenomeni della nostra realtà odierna, estremamente interconnessa e dove succedono miliardi di cose al secondo.

Cito la famosa frase attribuita ad Andy Warhol “nel futuro chiunque sarà famoso per quindici minuti” proprio per descrivere quello che è diventato la nostra realtà, nella quale chiunque può diventare *virale* per un giorno o magari anche per solo un’ora.

Quello che però mi interessa analizzare sono i processi dietro a questa possibilità di poter diventare internazionalmente conosciuti così facilmente, e dimenticati altrettanto facilmente.

Questo accade perché utilizzando i social media offriamo la nostra attenzione in cambio di soddisfazioni momentanee. Approfondirò in seguito questo argomento, perché nell’ultima parte del primo capitolo mi soffermo sul nostro interesse nei social media e i relativi effetti collaterali che questi hanno su ogni individuo.

Lo psicologo americano Abraham Maslow, in un articolo del 1943 pubblicato sulla rivista americana “Psychological Review”¹²⁴ ha esposto per la prima volta la “Piramide di Maslow”, ovvero una gerarchia articolata su cinque livelli di quelli che sono i bisogni di ogni individuo.

¹²³ *Ibid.*, 21.

¹²⁴ Maslow, A. H. “A Theory of Human Motivation.” *Psychological Review* 50, no. 4: 370–96. 1943.

Cito questa piramide perché i bisogni di cui parla Maslow, la cui soddisfazione prima era ricercata nella società, sono gli stessi la cui soddisfazione ora viene ricercata in scala mondiale, tramite i social.

Per concludere il capitolo e poter permettere di capire realmente l'entità dei danni causati e il potere dei social media su ogni individuo, mi è sembrato consono citare un report¹²⁵ pubblicato dalla Royal Society of Public Health in cui viene affermato che problemi come depressione, ansia, problemi con la propria immagine e cyber bullismo hanno avuto un aumento di più del 70% negli ultimi anni.

L'influenza dei social media però, come poi verrà analizzato nei capitoli successivi, non si limita alla coscienza e al benessere dell'individuo: si estende anche al suo comportamento. A dimostrazione di ciò, cito quattro distinti casi in cui determinati post sui social media hanno avuto un effetto non indifferente sul comportamento delle persone, in particolare finanziario, e come questo si sia ripercosso anche sul mercato stesso, dimostrando un netto collegamento tra quello che è il *sentiment*, ovvero l'espressione dei sentimenti e delle opinioni sui social media, e la coscienza e il comportamento degli individui che ne fanno uso.

L'obiettivo del secondo capitolo è quello di capire quindi questo stretto contatto tra i social media e la società in primis, per poi focalizzare l'attenzione sui social media e i mercati.

La nostra società è stata tremendamente influenzata dai social media, e una visione molto interessante è quella riportata dal filosofo e professore Sud-coreano Byung-Chul Han, che nel suo libro *L'espulsione dell'altro*¹²⁶ afferma come la nostra società stia eliminando sempre di più quello che è l'Altro, inteso come qualcosa o qualcuno che non conosciamo o che non capiamo e che quindi, almeno inizialmente, ci spaventa. L'autore compie una analisi su come questa mancanza del diverso, causata da un sentimento di conformazione promosso dai social media, provochi poi dei sentimenti autodistruttivi, ritrovati nei tantissimi casi di autolesionismo, o di eccessiva violenza, affermando anche lui, come Le Bon nel caso dell'appartenenza di un individuo a un gruppo, che i social media in realtà costituiscono il livello più basso della socialità, dove ogni utente può celare quella che è la sua vera persona e la sua realtà a favore di una che gli vada più a genio, o che semplicemente possa essere più apprezzata dagli altri, dai *followers*.

¹²⁵ "Social media and young people's mental health" in *Status of Mind*. Royal Society for Public Health. *Vision, voice and practice and the Young Health Movement*, Royal Society of Public Health. 2017.

¹²⁶ Han, B. and Vittorio T. *L'espulsione Dell'altro: Società, Percezione e Comunicazione Oggi*. Milano: Nottetempo, 2017.

Quello che viene anche sottolineato più volte è il crescente narcisismo che caratterizza sempre di più ogni individuo della nostra società, in particolar modo se giovane e iscritto ad almeno un social media: Han afferma infatti che al grado più alto di questo narcisismo un individuo inizia a vedere e concepire la società in funzione di sé stesso ed anzi come sfumature della sua stessa persona. Parallelamente a questo tipo di pensieri e sentimenti però, nella maggior parte delle persone c'è anche un sentimento di inadeguatezza, perché confrontano continuamente le loro vite con quelle di migliaia di altre persone, che spesso invidiano.

Dopo aver fornito una definizione di quello che è un mercato e di quella che è una economia di mercato, passo ad analizzare quello che accade nei mercati, citando lo studio¹²⁷ compiuto da Claudia Biancotti, direttrice del settore Emerging Markets and World Trade della Banca d'Italia, e Paolo Ciocca. I due studiosi analizzano come effettivamente i mercati, negli ultimi anni sono stati influenzati dai social media. e come lo saranno ancora di più negli anni a venire.

Il testo mette in luce come i mercati siano altamente vulnerabili dai social media, a causa dei rischi collegati alla facilissima diffusione di notizie false o semplicemente atte ad avere un impatto positivo o meno su una determinata azione. Gli autori dimostrano dunque quanto sia grande la necessità di regolamentazione del settore.

Per concludere il secondo capitolo e dare delle prove pratiche di questa influenza, cito il testo in cui Han Woo Park e Youngjoo Lee¹²⁸ analizzano come l'attività su twitter sia strettamente collegata al *sentiment* più o meno condiviso sui social. Tra i vari risultati esposti nell'articolo, si può notare una accuratissima correlazione tra un *sentiment* positivo nei confronti di Bitcoin nel 2017, anno in cui la criptomoneta ha raggiunto per la prima volta il massimo storico di 16'721.77 \$.

Nel terzo capitolo, dedicato agli effetti economici dei social media, analizzo innanzitutto gli effetti da un punto di vista dell'economia reale di una società. Riportando quanto illustrato dall'articolo "The Impact of Social Structure on Economic Outcomes"¹²⁹ di Mark Granovetter, metto in luce come la struttura sociale, assimilabile e soprattutto espressa dai social media, influenzi l'economia

¹²⁷ Biancotti, C. and Ciocca P. "Financial Markets and Social Media: Lessons from Information Security." *Carnegie Endowment for International Peace*, November 2, 2021.

¹²⁸ Park, H. W., & Lee, Y. How are twitter activities related to top cryptocurrencies' performance? evidence from social media network and sentiment analysis. *Drustvena Istrazivanja*, 28(3), 435–460. 2019.

¹²⁹ Granovetter, M. "The Impact of Social Structure on Economic Outcomes." *The Sociology of Economic Life*, 46-61. 2018.

reale di una società. Di particolare interesse per la mia tesi è lo studio di Di Maggio e Louch¹³⁰, riportato in Granovetter. Secondo Di Maggio e Louch quando le persone comprano da qualcuno che fa parte delle loro amicizie o comunque conoscenze, si sentono più soddisfatte ed economicamente favorite sia da un punto di vista di convenienza dell'affare stretto sia del prezzo pattuito per un determinato acquisto.

Per approfondire ulteriormente questo rapporto tra i social media e l'economia mi sono avvalso dello studio di Zheyu Cui, che nel suo "Analysis of the Impact of Social Media on the Economy"¹³¹, analizza il nuovo modo di fare business offerto da social media come ad esempio tiktok: le piattaforme digitali permettono ai negozianti di offrire il loro prodotto non solo al limitato numero di persone che passano in una via o che abitano in una città ma all'intera nazione, all'intero mondo, in maniera relativamente economica. Zheyu Cui fanno notare anche che le persone che rappresentano il tramite tra i business e i consumatori - che potrebbero essere assimilate ai *leader* di cui parlava Freud, il cui prestigio è dato però dal grandissimo numero di followers che hanno – vengano pagate cifre esorbitanti per la loro influenza.

Nell'ultima parte del capitolo analizzo l'effetto dei social media sui mercati finanziari, in particolar modo grazie al testo "An Analysis on how Social Media Impacts Financial Markets"¹³² di Zachary Ludwig. Basando il suo studio sui quattro account twitter di Elon Musk, Tyler Winklevoss, Jason A. Moser e Alexandria Ocasio Cortez, l'autore trova una correlazione tra i tweet in cui essi parlano di una determinata criptovaluta o azione e il loro relativo prezzo sul mercato, nel lasso temporale tra il giorno del tweet e i tre giorni successivi.

Quello che scopre Ludwig è che mentre sulle azioni l'influenza dei social è irrilevante, sulle criptovalute è invece molto forte, anche a distanza di giorni da quella che potrebbe essere definita la dichiarazione del *sentiment* da parte della determinata celebrità.

In conclusione, quindi, alla luce di tutti gli studi riportati e dei dati analizzati posso affermare che il collegamento tra i social media e l'economia, sia degli individui sia di una comunità, esiste.

Quello che poi sottolineano molti degli studiosi che ho citato è che tale collegamento non solo esiste ma deve essere ancor di più studiato ed approfondito.

¹³⁰ DiMaggio, P. and Louch H. "Socially Embedded Consumer Transactions: For What Kinds of Purchases do People Most Often Use Networks?" *American Sociological Review*. 619–37. 1998.

¹³¹ Cui, Z. *Analysis of the impact of social media on the economy. Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021)*. 2021.

¹³² Ludwig, Z., & Perkowski, P. *An analysis of how Twitter Impacts Financial Markets. Journal of Student Research*, 10(3). 2021.

Infine, da un punto di vista sociale, questo effetto diventa quasi preoccupante: siamo continuamente e sempre di più collegati al resto del mondo ma allo stesso tempo isolati da esso. L'obiettivo di questa ricerca, dunque, è stato quello di analizzare l'evoluzione digitale della nostra società, riconoscendone pregi e difetti, convenienze e svantaggi, per individui e mercati.

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