The Electronic Eyes of the Social Capital

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Abstract

The video camera symbolizes an intelligible system that seeks to replace mechanically the human eye, in this paper, entitled "electronic eyes". People's reaction when realize that they are being observed through the lens of the "electronic eye" are in a variety of ways. Some people get shy, others show themselves off spontaneously, and many of them try to avoid the electronic lens. Can a mechanical eye influence people's behavior? This article examines not only this issue, but it goes further. Considering the increasing number of cameras installed in public and private places, the question is: may this fact cause any change in social relationships? The main purpose of this paper is to analyze the electronic eye's influence on the concept of social capital. A qualitative exploratory study was performed conducted by semi-structured interviews. The results show that the electronic eye influences on peoples' idea, on the social relationships, and on the social capital concept. Although changing peoples' behavior and attitudes, the electronic eye does not replace the human eye, it only complements it. Coined by the authors, the term "electronic eyes", is a contribution of this study to the Social Capital, conceptually supported by the social philosophy.

Keywords: Electronic Eye, Social Capital, Cameras

1. INTRODUCTION

It is essential to start the article highlighting some key aspects of the discussion about society in order to understand the concept of Social Capital. In this sense, supported by the social philosophy, it has been sought a contribution to the reflection about interpersonal relations on the cameras systems, that function as real electronic eyes, understood here as an attempt to reproduce mechanically the human organ through the system of video cameras. According to the Cambridge Dictionary of Philosophy (1999) the social philosophy and, in general, the philosophy of society, encompassing the philosophy of social sciences - with emphasis on economics and history - political philosophy, ethics and philosophy of law. In spite of this statement, two narrower directions are indicated: first, the society conceptual theory, considering the main part of all these

mentioned studies and second, the normative study or the part of moral philosophy, which deals with the social activity and the individual participation in a society.

In a narrower sense, the task of social philosophy is to articulate the correct notion of the society concept. Distinguished thus between "narrow" and "large" society conceptions. The first one identifies the minimum aspects about society, in other words, the interaction of people whose actions affect the behavior of their peers. The other one adds other elements such as community rules, goals, customs and ideals.

At this point begins the dissent. Within one's own social descriptive philosophy, according to the Cambridge Dictionary of Philosophy (1999), there will be points of view that tend to join a social science, for example, the individualistic point of view to the economy, and the holistic to sociology. The main methodological controversy concerns to the holism versus the individualism. The first one holds that at least some social groups should be studied as irreducible units to its members and that it is not possible to understand a society including only the actions and motivations of its members. On the other hand, the individualism denies that societies are organisms and it declares that a society can be known only in this way.

Some German classical sociologists like Weber (1947), have distinguished between Gesellschaft whose paradigm is the voluntary association, such as join a club, where the coordinated actions by individuals who associate with the same goals, and the Gemeinschaft whose members find their identity in this group. Weber (1947) affirms that people can put their nation above all, for example, Brazilians which, whether or not join a group of people that shares the same opinion to form Brazilian society, are Brazilian above all. To the holism a society is considered a Gemeinschaft. They agree on the existence of such associations, however, they deny that these association lack of collective explanation. In this case, to comprehend Brazilians, it is necessary to understand how particular individuals behave compared to those of other societies.

The advent of sociobiology is considered by the Cambridge Dictionary of Philosophy (1999) as a source of explanation to the social phenomena. The normative philosophy tends to disappear in politics or ethics, especially the part of ethics which deals with how people should treat others, particularly in large groups, in relation to social institutions or social structures.

The core of this debate results in implications to the current concept of social capital. Individualists argued that the goodness of a society must be examined from the viewpoint of the goodness of its individual members. Organicist philosophers like Hegel (1979) declares that there is another way: the State or nation is superior to the individual. Subordinate to it, the individuals have fundamental obligations towards groups that they are members. On the other extreme, there are the libertarians, who defended the right to individual liberty as fundamental to society and no institution could ignore this law. Social Darwinism supported the survival of what is socially fair and it was sometimes confused as libertarian.

Standardized points of view have resulted from these currents of thought and, as they arise, they combine elements of both individualism and holism. From this perspective of multivariate views emerges the notion of social capital. Recognizing this concept, this article, has analyzed how the members of a society behave observed by the lens of the electronic eyes. To this end, a theoretical framework has been sought; the methodology has been defined followed by the data analysis and results as well as the final considerations.

2. THEORETICAL BACKGROUND

2.1 The Electronic Eye

St. Augustine, in his book "The Greatness of the Soul", debates with Evodio about the sensitivity throughout the body. Particular emphasis is given to the sense of sight. Here is part of the debate:

> "August. - But what the eyes see, they feel.
>
> Ev. -I would not say it at all, because, who sees the pain, which the eyes often feel? (...)
>
> August. - But if you see, you feel, if you feel there is reaction; there can be any reaction where you're not, but you see where I am, so, react where I am. But if where I am, you are not; I do not know how you dare to say that I am seeing by you.
> Ev. - By vision, I say, led to the place where you are, I see where you are; but I recognize that I am not there. Though, as if I touched you with a stick, I certainly would feel and touch you, yet, I would not be where I have touched you. So, because I say that I see with my sight, although, I'm not there, I still don't have to admit that it is not me who is seeing you.
>
> August. - Then you don't agree on anything rashly, because your eyes can also defend itself in this way: the view is like a stick of the eyes, as you say, and this conclusion is not absurd, or that your eyes can see where they are. Or, are you of another opinion?
>
> Ev. - In fact, this is how you're saying, because I realized now that if the eyes could see where they are, they would see themselves as well.
>
> (...)
> August. - (...) So, when the eye of the mind, which we call reason, are projected onto something, and they see it, it is called science; but when they don't see it, although it directs the eye, it is called lack of science or ignorance" (Agostinho, 2008).

The advance of science is unquestionably fast and surprising every day. When the "eye of mind" is opened to reality many creations and inventions that make human life easier on the planet are noticed. Even in living systems and self-creating entities. According to Senge (1999) the prospect of living systems emerged from the sciences: quantum physics, ecology, mathematics of complexity and chaos theory. In these living systems the world is interconnected, pulsating and changing constantly, quick interactions relationships, and order emerges naturally from chaos without being controlled.

Many of these "wonders" created by the human knowledge became true from the science fiction, which were seen, initially, in the big movie screens. In this "dark cave" images of a not true reality are projected, but it may become reality in the material world. Any similarity established here with Plato's Cave Myth, is not mere coincidence. In this perspective, Plato conceived that the image preceded the materiality. Contrary, the image was a mere shadow of the reality that was taking place behind the cave's prisoners, between the great light and the angle of view of those prisoners in chains.

Drawing a parallel, it is conceived here the image as a material prediction of a reality conceived through the great light of the intellect, or St. Augustine's words, the view of the mind and its real existence. The movie is the metaphor that better represents this conception. From the movie screen it is possible to recognize the materialization of St. Augustine's discussion with Evodio about the eye. A look that goes further. Images, though often unreal, arouse all kinds of reactions, intellectual, emotional, imaginary. In the book A Educação do Olhar (The Education of the Eye) (Brazil, 1998), there is a quote showing that the body of symbols dominates the mass culture:

> By definition, the contemporary world is considered to be dominated by mass culture, that means there is a body of symbols, myths and images concerning to

> the practical and imaginary life, with a system of projections and specific identifications associated to the images and sounds, which we capture by the means of mass communication (Brasil, 1998, 165).

This image culture is always associated to the sight, the perceived human organ to such sensory input. This happens because of the creative evolution that also has been reproduced from the living systems pointed out by Senge (1999). The video camera represents this intelligible system that seeks to replace mechanically the human eye. It reproduces almost exactly the same images that the human eye is able to capture. Besides it, this "mechanical eye" has the capacity to record images that can later be reproduced with precision.

2.2   The Eye That Transforms
The vision of the human being has been transformed over the years and it changes the perception of one's reality.

> How many things men are not added to the seductions of view, with the range of gears and work with their hands, on clothes, shoes, vases and objects of all genres and also in painting and other reproductions, going beyond the need limits (Augustine, 1984, 288).

Apart from utilitarian reflection, it has been noticed that the human eye in the statement of Augustine (p. 354-430), through the seductions of the sight, was transformed and changed the reality. Such changes do not stop there. The human eye intrigues and instigates the human being; it invites one to look further, to seek meaning, to reconstruct the panorama of the sight. The Professional Engineering Review (2009) states that retinal implant activates electrodes to pass visual messages to brain via optic nerves. Researchers and engineers from the Massachusetts Institute of Technology are working on a retinal implant that could help blind people regain a useful level of vision. In this case, patients who received the implant would wear a pair of glasses with a camera that sends images to a microchip attached to the eyeball. This is an attempt to mechanical reproduction of the human organ to replace exactly the eye.

In this perspective Heung Cho et al. (2008) declares that the human eye is a remarkable imaging device, with many attractive design features. On a experience, the engineers try to reproduce all the characteristics of the human cornea:

> […] we introduce a means of producing curvilinear optoelectronics and electronic eye imagers that uses well-established electronic materials and planar processing approaches to create optoelectronic systems on flat, two dimensional surfaces in unusual designs that tolerate compression and stretching to large levels of strain (50 per cent or more). Conceptually this feature enables planar layouts to be geometrically transformed (that is conformably wrapped) to nearly arbitrary curvilinear shapes. […] we use a hemispherical, elastomeric transfer element to accomplish this transformation with an electrically interconnected array of single-crystalline silicon photodiodes and current-blocking p–n junction diodes assembled in a passive matrix layout. The resulting hemispherical focal plane arrays, when combined with imaging optics and hemispherical housings, yield electronic cameras that have overall sizes and shapes comparable to the human eye. Experimental demonstrations and theoretical analyses reveal the key aspects of the optics and mechanics of these systems (Heung Cho et al., 748, 2008).

A deeper analysis reveals that with the introduction of this "electronic eye" a society keeps on changing. The probable reason for this transformation is the people's behaviors that have their attitudes deeply and stately modified when facing the "mechanical eye". An external body reaction of a person, for example, is immediately changed upon receiving the focus of a camera lens. Likewise, the increasing intensification on the use of "electronic eyes" is transforming the social relations once established on another prism.

 The first amended concept is the notion of religion. From a God who was able to see everything to a God-man who is able to see and record "everything" that interests to him. According to Marcondes Filho (2009) this is a process of virtualization and replication of the world where a

world without people is created, but with biological clones and virtual images. In this society, the author continues, "the man relieving himself, all the society becoming "pure energy", moving to its final solution, [...] the project Disappearance as a technical project of virtuality, would be the most radical achievement of the metaphysical desire (being God): it is not about the place, but it can see everything" (Marcondes Filho, 2009, 64).

Another transformation takes place in the field of the individuality. The relationships that once were person-to-person, now in the "virtual mechanical" time goes through the network and through the "virtual eye". In this way, the human being presents itself more by the "electronic eye" than by the real mediations.

> Before the mediation electric-electronics, the public sphere constructed places and situations that facilitated the approaches of all kinds. [...] The transformation that occurs today is of the complete or nearly complete path from the personal relationship forms to those that are mediated by electronic systems. They are no longer talks, chats on the network. It is the development of therapeutic forms of aid and transposition to the screen of demarcation social rituals, like marriage, to the virtual world (marcondes Filho, 2009, 41).

As a consequence of individual exchange, the family also suffers from its impacts. Starting with residential structure that owns now reduced and individualized rooms, with technologies like computer, TV, DVD, etc. Such devices have direct influenced on the residents behavior. In this context, the family becomes the "fixed point of reference" once represented by the living space whose emotional ties were paramount.

This new dimension exerts influence in all relationships that the individual establishes with its surroundings. At school, at work, at the club, everything changes having as a trust orientation the relationship itself established by the individual with their virtual counterparts. This confidence decreases or increase as a person defines its own sincere relationship with and through the "electronic eyes".

2.3   Changing the Way of Thinking

Mankind has been conditioned over the centuries, to look unilaterally. It is very hard to turn away from the laws of view accepted by Western culture and realize, even intellectually, that this is not the only method of seeing things. The optical result was the development from a linear perspective, which created a revolution in how people perceive the objects around them. As a consequence, it emerged the "vision", usually represented by a lane bordered by trees or a symmetrical street. >From this vision came out the "vista", the limiting of the view held by an object of interest, often a facade symmetric elaborately to a certain distance. All other views were, consciously or unconsciously, considered erroneous: "From this place is that one must look" (Tyrwhitt, in Carpenter and McLuhan, 1968, 115-116).

The "electronic eye" breaks up with the unilateral perspective of seeing and of perceiving reality, to open up to endless possibilities. From the paradigm "from this place is that one must look" it makes room for "the place where one is that one should look". The electronic eye permits to see many places from a single point. Without leaving the place, and from all sites, the various eyes spread around the world can be accessed. The entrepreneur does not need to go to the company to see what is going there. Before leaving for the summer holidays, you can see the traffic situation of the roads. The surgeon's eye can reach the tiny pieces of the human body which before they were not able to be seeing.

According to Cascio (2009) the emerging technology, called "Augmented Reality" – AR, enables users to see location-specific data superimposed over their surroundings.

> With AR applications such as Layar, the smart phone displays what its camera sees, with information about nearby buildings and shops, travel directions, even notes and "tags" left by other users in that location. Although AR now relies on handheld devices, electronics makers like Sony are working on systems that

> you wear like sunglasses, making augmented vision more immersive (Cascio, 2009, 34).

People's behavior forced by changing habits and attitudes to new technology leads to a paradigm shift. This leads to the transformation of mentality and thinking. Thinking makes the epistemology that serves as the basis for new creations and new compositions of humanity. This dynamo almost infinite casts new light on the bases of the individual and society to draw from them elements not seen before, but it now becomes possible through the "Augmented Reality".

2.4   Electronic Eyes and Individuality
A simple stroll through the city streets, parks, forests, galleries, sidewalks and avenues could be considered trivial and eminently personal and individual, by the end of last century. Walking aimlessly, meet friends in these areas, enjoy the shop windows, shopping at the mall, at the supermarket or at the bakery, it was considered very ordinary, moments that should remain intact in the sphere of private life. Nowadays, take the same leisurely walk may expose the image of each individual to the aware and vigilant eyes of hundreds of cameras

> 7 million eyes ... It is the estimate of how many closed-circuit cameras watch public places in the world. The account does not include the private spaces. Only in England, the surveillance country champion, there are 4.2 million cameras. Every resident of London is caught at least 300 times a day for these artifacts (Rosa, 2006, 32)

The relationship between individuality, holy value to the civilized world, and technology, desired and in high development, leads the human being to live a paradox, where each step in the exercise of his individuality, less privacy he gets. Privacy is partly a form of self-possession – custody of the facts of one's life, from strings of digits to tastes and preferences. This version of privacy considers everything we know about ourselves and wish to control but that the continuous capture of our digital existence makes increasingly uncontrollable (Mccreary, 2008).

George Orwell, in 1948, wrote the book entitled "1984", which portrayed a world without privacy, where government authorities monitored the activities of citizens taking advantage of a vast technological apparatus. A secure world, where individuality has been conceded by an absolute power domain, a world without freedom, where the expression "Big Brother" has been emerged, which could see and know everything. The loss of privacy shapes society, allowing the government to exercise control over all aspects of individual lives.

People still may not be aware that the guarded and monitored society, observed by Orwell at that time, it is the same society which people live nowadays. According to the article, Learning to live with Big Brother (2009), that might occur because of electronic surveillance has not yet had a big impact on most people's lives, other than (usually) making it easier to deal with officialdom.

Electronic eyes installed in most places reveal the people's behavior. Walking on the streets, people are under the focus of monitoring cameras, revealing their attitudes and gestures. The fact is that everybody is vulnerable to the electronic eyes increasingly sophisticated, disguised, tiny and imperceptible to most of citizens who pay less attention.

2.5   Electronic Eyes and Society
The desire to observe, without being noticed, has always been irresistible and wrong for not being ethical. But times have changed and in modern society, due to the advancement of violence and technology, the license to spy rose from obscurity and got the status of need. And so, little by little, people get used and feel safer when monitored by an electronic eye.

Monitoring systems by cameras have expanded significantly over the past twenty years, representing a change in the forms of social organization to the extent that these systems show two facets: surveillance and social control. On the one hand, these monitoring systems seek to reduce risks to the administration of the population (Botello, 2006).

People living within a society still did not realize they are more exposed than ever. On the streets, in a bank, at a party, in a restaurant, inside of a lift, a bus or a shop, the fact is that people are increasingly involved in a web of technology so widespread that they have not stopped to think that the most common habits of their daily lives are constantly captured by powerful and vigilant lenses.

A major benefit of the monitoring systems by cameras is the enhancement of police action, helping the city become a safer environment. However it can result in an abandonment of police from the streets and from the contact with people. Society, in general, needs the police presence to convey the feeling of a safe place. In addition, often the presence of cameras may increase the feeling of that the place is unsafe. Conversely, places that do not have this type of monitoring may transmit the sensation of being unsafe (Paoli, 2005).

The future of a society belongs to the electronic eye, vigilantes and alert 24 hours a day, able to catch everything, everyone, and record images that can be used by public authorities and it is a major breakthrough in combating the high crime rates as assaults, robberies, kidnappings and murders. This look can also create true living organisms, knowing better the impulses of buyers than the buyers themselves. The electronic eye transcends even smart cards or marketing databases. The buyer is captured in the act, at the click of the mouse, without even to notice a shop window.

Many U.S. companies have made large investments on new video technologies, surveillance systems to protect products and promote a safe working environment (Nieto, 1997). The fact is that the monitoring system by cameras has being increasing and its use is becoming standard rule of many organizations.

With the development of these new technologies, new questions arise: How many professionals complain about this compulsory exhibition? What implications would the use of these technologies have on a daily work of a professional? Do people want to work for a company that reportedly monitors its employees? And, going further, for what purpose do the hierarchical superiors use the information?

2.6   Social Capital "a New Look"

As individuals, people have two sources of personal competitive advantage: human capital and social capital. Human capital, which includes intellect, talent, charisma, and formal authority, is essential for success, but frequently beyond our direct control. Social capital, on the other hand, drives from people's relationships (Shih, 2009).

Many authors, including Bourdieu, Coleman e Putnam, define the concept of social capital. According to Bordieu (1977, 503) social capital is a capital of social relationships which provide, when necessary, useful supports: a capital of honorability and respectability which is usually indispensable if one desires to catch the attention of clients in socially important positions, and which may serve as currency, for example in a political career.

Putnam (1993, 169) has defined capital social as features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions. According to Coleman (1994, 302) social capital is defined by its function. It is not a single entity, but an assortment of different entities having two similar characteristics: they both consist of some aspect of a social structure, and they also facilitate certain actions of individuals who are within the structure. Shih (2009) states that individuals with greater social capital close more deals, are better respected, and get higher-ranking job.

The concept of social capital has increased and now covers several areas of knowledge, "it has taken off like a bushfire in the social sciences, it has started to catch on in policy circles, and it has also flared up from time to time in the mass media" (Field, 2003, p.1). In this perspective, a

"new look" on social capital may arise from the integration of technology tools that influence people's behavior and their relationships.

2.7 Relationship Between Electronic Eye and Social Capital

In her work "The Death and Life of Great American Cities", Jane Jacobs (1992) describes what makes streets safe or unsafe, what a neighborhood constitutes of, and what function it serves within the larger organism of the city, plus, why some neighborhoods remain impoverished while others regenerate themselves. The author describes an event that occurred in Manhattan when she observed a man trying to drag a youngster off the sidewalk and the girl contested. In the account of the author, eyes came from all sides, the windows of nearby buildings were opened, people came out of shops, grocery stores, bars, butcher shop, and the like, nobody would let that a little girl was spanked. The man who was dragging the girl off the sidewalk was her father.

This community eye is an expression of the social capital contained in a society. The eye of an individual is complemented by the extension of another individual, as members of this community that help each other. This look, in turn, is part of an informal agreement that occurs between individuals, firms and governments. Its development can result from the interaction between tradition, previous experiences, among others. Whenever the cooperative agents are not able to monitor the actions of each other, without the expenditure of effort, problems of particular interest arise.

It is understood that two or more agents work together when they are engaged in relationships with common purposes. The Dictionary of Social Thought (1996) states that in general, cooperation is present in most human endeavors, from market transactions to international relations, from industrial production to education, involving even competitive relationship.

When monitoring is difficult, it becomes necessary alternative solutions for this dimension of social capital, it comes into play the "electronic eyes". These eyes come in disguised form of technological monitoring cameras in businesses, buildings, parks, libraries, classrooms, airports, shopping malls, residences, and the like. However, this new look can change people's behavior, and may even introduce a new meaning to the concept of social capital.

2.8 Trust

Trust is a key pillar underpinning the concept of social capital. Trust exist when one part has confidence in an exchange partner's integrity and reliability, and it creates a general expectation by an individual, that one's word can be taken as true. In addition, trust increases commitment and loyalty to the relationship. Trust is central to all relational exchanges (Morgan; Hunt, 1994).
Trust in other people is quite different from trust institutions or political authorities. One could easy trust one's neighbor and distrust city hall, or vice versa (Putnam, 2000). Beugelsdijk (2009) points out two levels of trust: (i) micro and (ii) macro. These levels are used to analyze the concepts of trust and networks, and their measurement, and the acquired insights are used to offer avenues for future multilevel research of social capital.

Micro trust is defined as a property of individuals or as characteristic of interpersonal relationships (Beugelsdijk, 2009). People who trust others are all-round good citizens, and those more engaged in community life are both more trusting and more trustworthy. On the other hand, the civic disengaged believe themselves to be surrounded by miscreants and feel less constrained to be honest themselves (Putnam, 2000).

Broadly speaking, at the macro level, there are two streams of research in economics and management which study the sources and consequences of trust. Trust is studied at the aggregate level in relation to the economic success of nations or regions. A core element in these approaches is the concept of generalized reciprocity (Beugelsdijk, 2009). A society that relies on generalized reciprocity is more efficient than a distrustful society (Putnam, 2000), so trust exists and it reduces transaction costs, thereby promoting growth (BeugelSdijk, 2009).

3. METHODOLOGY

The exploratory study was the chosen method for this research which, according to Collis and Hussey (2003) aims to find patterns, ideas or hypotheses, rather than testing or confirming a hypothesis. Malhotra (1996) adds that the exploratory research is characterized by flexibility and versatility with respect to the methods.

The research approach was qualitative. This approach is widely used in the development of research in social, economic, marketing, communication, management, representing generally a way to ensure accurate results, thereby avoiding distortions of analysis and interpretations (Oliveira, 1999; Raupp and Beuren, 2003).

Semi-structured interviews were carried out as a technique for data collection which, according to Hair Jr. et al. (2005, 163), allows the interviewer to add questions related to the topic that were not previously imagined or were not originally included in the script, enabling the emergence of unexpected and enlightening information, thereby improving the findings. The open structure allows that unexpected events or attitudes can be easily explored (Aaker; Kumar; Day, 2004).

The content analysis has been chosen for the information analysis, in which words were classified into semantic categories (Bardin, 2004). According to Aaker, Kumar and Day (2004, 223) it is an objective systematic and quantitative description of the manifest content of a communication unit. This technique allows examining the frequency with the words and major themes occur, and it identifies the contents and characteristics of information existing in the text (Hair Jr. et al., 2005). The unit of analysis can be words, characters, themes, measures of time and space, or topics (Aaker, Kumar and Day, 2004).

4. DATA ANALYSIS AND RESULTS

From the interviews, it was considered four topics of analysis, industry, commerce, business services and city streets (downtown). Some illustrative passages from the interviews are presented with the most relevant information. The names of the researched companies and respondents are identified by using fictitious names within their segments.

4.1 Electronic Eye in the Industry

The research has shown that the main reasons for installing electronic cameras were: property security and valuables, theft of equipment, monitoring products, warehouse and finished goods control, vandalism, and even as a tool in solving problems relating to lack of communication within organizations.

Some of the benefits provided for the electronic eyes are pointed out as a security measure that allows the reduction of incidents an theft, they protect the company's assets from intrusion and theft as well as make a contribution to the customer satisfaction, as it states the security manager of one of the largest metal mechanic segment industries in Brazil, Kevin, "[...] since the final good is stored on the patio, in case of its components been stolen, it may delay the delivery of goods to the customer." Moreover, the dissatisfaction and discomfort of some employees were the main disadvantages highlighted.

Investigated on the agreement of the company's decision to implant the cameras, the respondents were unanimous in saying that they agree with such determination. Sharon, a coworker of one of the researched industries, says: "you cannot take care of a place 24 hours a day." It was observed that the employees' attitudes at the beginning of the cameras implementation process were distrust, resistance, uncertainty but in the long run, it became part of the regular work routine, "it seems to have nothing", says Kevin. On the other hand, some employees feel uncomfortable, "you know that you are being monitored, you know that, if they (the managers) see anything through the cameras, they come to talk to us," assures Sharon.

Trust, a major component of social capital (Putnam, 2000), when brought up in the survey, it was recognized as indifferent to the electronic eyes. According to the respondents, these eyes do not interfere in the formation of trust between people within the organization. The employee Mathew says "trust we must have on people, with or without camera [...], the trust of a colleague comes from being together". For Kevin, there is a growth of trust in the teamwork provided by the security of the monitoring system. May this "security" be called trust? According to (Putman, 2000), trust is established among people. Can anyone trust an electronic device the same way they would trust another person?

Kevin says that the cameras do not interfere in the productivity, however, in a unit of the same company he works for, based in a country where terrorism makes many victims, the monitoring system positively affects the outcome of the work, because the employees feel safer and protected from terrorism.

The research examined whether the electronic eyes could replace the human eye. According to respondents, they do not replace it. The machine is cold and does not provide the human contact. In Sharon's words, "nothing replaces the person" and in Kevin's expression, "people make the difference, plus the managers' relationship with the employees make all the difference". Besides not replacing the human eye, the electronic eyes are not decisive for building consistent relationships.

4.2   Electronic Eye in the Commerce
The survey results show that car theft and the monitoring of events in traffic were the main reasons, according to the traders, for fixing electronic cameras on the streets. According to them, the control of traffic flow helps to prevent probable accidents and the pedestrian safety when crossing the streets are the major benefits of this "eye". Traders do not pose any disadvantage to using such equipment.

Owners of shops, bookstores and other commercial establishments assume that most of the time people do not realize that there are cameras fixed downtown, and even those who notice such a presence, do not exhibit any different behavior or inhibit themselves because of this fact. "The electronic eye is something that has become normal, ordinary" states Mary Elen, who owns a clothing shop, located downtown.

Most of the respondents believe there is no link between the use of electronic cameras and trust, as Paul points out "where trust does not exist, it is not equipment that will solve it." Furthermore, they state that these electronic devices, in spite of their perfection, they are not able to replace the human eye.

4.3   Electronic Eye in Public Places
The research results identify the mutual disrespect between pedestrians and drivers when crossing the streets, plus, crowded places such as malls, city bus terminals, airports, and shoplifting were the main reasons for the implementation of this electronic eye in public places. For Antony, an owner of a shoes shop, "the cameras were installed in the main city streets especially because of the lack of policing". Christian, one of the Shopkeepers City Chamber (CDL) directors declares:

> It was through an authorities of trade request (CDL, Sindilojas and Sindigêneros), demanding the military brigade and the municipal government, to provide a more efficient condition to those responsible for policing, using more modern techniques, such as a monitoring system. And since the state did not provide money, the system started from the trade entities and the local community (Chistian, 2010).

He adds that statistics available by the city Military Brigade were observed for placing the cameras. "After installing the monitoring system by cameras, there was a 70 per cent reduction on the crimes occurred in the city".

The main benefits mentioned by the implementation of the cameras are: the crime and vandalism control in the city's businesses and properties, the traffic control, and the police investigations. Antony says that "the main advantage of the monitoring system is the increase of prevention. Crime prevention reduces the incidence of transgression, police anticipates the criminal fact and inhibits the action of the delinquents, and it also decreases the level of violence downtown".

The main highlighted disadvantage by the respondents in using such equipment was the fact that too much confidence on the camera system can reduce the effective proper policing on the streets, in addition, often human and technical failures occur on the monitoring which forbids the system to observe the latest occurred facts.

The agreement to use the system was cited as indifferent by the respondents, that because people do not know or do not realize the cameras. Those questioned said that the presence of this eye does not influence people attitude, because they continue behaving as they always behaved. Although, when people know they are being filmed, they behave themselves better, acting seriously, and sometimes they feel embarrassed and shy, because they know that any carelessness can be considered something serious.

When addressing the issue of trust the opinions diverge. A portion of respondents consider that there is no trust in public places and these equipments do not provide it. On the other hand, some respondents believe that people become more confident, once the cameras provide a safer city. Anthony states that the system can increase confidence and "through a system of monitoring only one man can handle 20 times more an environment, so there is an increase in productivity."

The researched people do not consider the possibility of the electronic eye replace the human eye. Ms. Marie, who works as a doughnut vendor, for more than 10 years on the same street site, refers to violence like this: "it is different here when there is a policeman". Antony, declares that the "electronic eyes extend the condition of the human eye and it has a multiplier effect. The electronic eye records everything while the human eye just watches it".

4.4 Electronic Eye in the Service Companies

The safety of both, employees and customers, was the main reason pointed out by service companies for the installation of electronic cameras. In some researched companies, the camera-monitoring system is already considered standard for safety reasons.

Better security for employees and customers, security for the internal and external aspects of organizations and the reduction of frauds, were observed as major benefits of electronic eye into companies. According to Michael, service manager of a credit union, "there are no disadvantages on the installation of cameras, because it will only feel embarrassed people who want to do something wrong." On a personal side it can be sustained, but when it extends to the group, in certain situations, what is right and what is wrong? Who defines it? For a company, for example, on the factory floor, is it wrong to talk to the co-worker? When it comes to society as a whole, it approaches to the concept of Gesellschaft (Weber, 1947) but, what happens when it comes to a small ruling group, the direction of a large company, for example? No intention to enter deeply into the subject that involves the notion of right and wrong, it is relevant to mention that it has the conceptual principle of "right action", in modern ethics, more closely related to a conception of law. Such action has as its study the theory of duty, which is divided into two parts: systematic exposition of moral code that defines the obligations of citizens, and their justification. The first one presents comprehensive formulations about the fundamental principles of right and wrong and it shows how they produce all moral duties. The second one establishes the principles' authority; consequently, it validates the code. The moral philosophy of Kant (1724-1804) with the categorical imperative: "Act in such way that the maxim of your action can become a principle of universal legislation", it represents the effort by the theory on a single and general moral obligation (Reale; Antiseri, 1990).

Requested about the agreement on the company's decision of implanting monitoring cameras, the respondents believe that these cameras are important for security, work and investigation of fraud and theft. Thus, according to Rose, a bank manager, "[...] in case of fraud or suspicious attitudes, when people deny something, the cameras can help to obtain evidences, and thus to make the disclosure to the other units".

When the respondents were asked about the relationship of trust and electronic eye, they indicated that, as the cameras have already been part of everyone day-to-day life; both employees and customers declare that there is a growth of trust. Michael complements "[...] the electronic eye can facilitate any investigation".

The respondents believe that there is a positive influence related to the use of cameras and the result of the work, once the work becomes more productive and the employees work safer. Some companies measure the result of their work by the attitude of their employees, according to Rose "[...] through the cameras we can observe if the service employee is being productive and if customers are being well served".

Finally, in order to investigate whether the electronic eye replaces the human eye, the result is unanimity, they all believe the human eye is irreplaceable. "The electronic eye does not replace the human eye, it only complements the human eyes, and it is a support used by man", states Michael.

4.5 Comparison of the Results With literature Review

Electronic Eyes – literature review					
To transform	**To think**	**Individualty**	**Society**	**Social Capital**	**Trust**
Arts, working, object, necessity (AGOSTINHO, 1984). Reproduction of the cornea (HEUNG CHO et al., 2008). Reality virtualization, the notion of God - duplication of reality (MARCONDES FILHO, 2009). Relation person to person, person to network (MARCONDES FILHO, 2009). Family	Sided view (TYRWHITT, 1968). Endless Possibilities. Augmented Reality (CASCIO, 2009).	Private life x eyes of the cameras (ROSA, 2006). Self-possession X continuous capture digital (MCCREARY, 2008). Governments control (ORWELL, 1948).	Obscurity X necessity. Surveillance and social control (BOTELLO, 2006). Security (PAOLI, 2005). Prevention (NIETO, 1997). Social Control (ORWELL, 1948).	Transactions of personal relationships (Shih, 2009). Honor and respectability (BOURDIEU, 1977). Confidence, norms and coordinated networks (PUTNAM, 1993). Function, action on the structure (COLEMAN, 1994). Social sciences, political circles, mass media (FIELD, 2003).	Community eye (JACOBS, 1992). Cooperation (DPS, 1996). Alternative: Electronic eye? People x Institutions (PUTNAM, 2000). Relational exchanges (MORGAN; HUNT, 1994). Individual ownership and interpersonal relationship (BEUGELSDIJK, 2009). Micro/macro (BEUGELSDIJK, 2009).
Comparison of results					
Industry. Commerce. Services companies. City streets. Communications. Reduction of	Unanimity installation. Prevention. Police investigations. Productivity.	Vandalism. Discomfort, privacy. Perception. Inhibits infraction.	Security. Customer satisfaction. Warehouse control. Traffic control. Prevention.	Resistance at first, routine. Robberies, thefts, frauds. Control of city property. Too much	Indifference among people. Feeling of security in the system. It does not replace human. Police reduction.

crimes. Behavior while being filmed.			Police disability.	confidence in the system when people deny something	Suspicious attitudes.

TABLE 1: Results X literature review

5. FINAL CONSIDERATIONS

From the results of this study it is worth to point out the transformation that the electronic eye plays on the individual, on the social relations and on the concept of social capital. The individual modifies its behavior from the sense of safety or discomfort caused by the mechanic eye. Afterward, the relationships between people change the way of social organization resulting from the difference in the trust level among them.

It has been observed that the trust, as part of social capital, differs across all surveyed sectors. In the industry, there is no consensus between the vision of management and staff. On one hand, it is observed that the managers consider existing an increasing of the trust level, because of the security provided by the equipments, on the other hand, it has been observed that the equipment does not interfere on trust relationship among the employees; trust exists or not, with or without the cameras presence. In this sense, the concept of trust means that a machine does not supply the other part of the human element necessary for the formation of social capital.

The commerce and services differ in opinions about trust. For the first sector there is no direct relationship between trust and the presence of cameras, because the equipment does not supply the level of trust existing among people. For the service sector, however, there is a plus in this relation since the electronic eye enables the verification of events occurring in business between individuals. The same contradiction observed in the commerce and services is repeated in public places.

The research revealed security as a determinant to the decision of implementing a monitoring system by cameras. The feeling of security interferes on the attitudes of human beings. The transformation that the electronic eye performs on a person's life pushes his way of seeing the reality. When placing a system of cameras people desire to complement their eye, and even to overcome the deficiencies of the human eye.

However, keeping in mind that the social relations among people within a community, whether or not influenced by the electronic eye, though this eye does not replace the human one, they are components of the social capital concept. For that reason this paper arises a question: Does the electronic eye modify the level of social capital in a community?

6. RESEARCH LIMITATIONS AND FUTURE STUDIES

Because of its exploratory nature, this research has some limitations such as: lack of literature that relates the relationship between electronic eyes and social capital; and the sample could be extended to other fields of society.

The researchers have as futures purposes to analyze the relationship between electronic eyes and employees' productivity. The perceptible people indifference related to the cameras over the time, and its consequences for the social capital.

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