Corruption in local and regional governments: socio-cultural complexity and transdisciplinary coping strategies

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Abstract

Objective

The article aims to establish transdisciplinary strategies for dealing with corruption, a complex socio-cultural phenomenon affecting the country's local and regional governments.

Method

It was developed from the perspective of the interpretative paradigm, qualitative approach and hermeneutic-phenomenological design. An in-depth interview was used to obtain the opinions of seven participants, all linked to the work of public management and governance and knowledgeable about the problem of corruption, regarding corruption and how to confront it from and with transdisciplinary research.

Results and conclusions

Corruption in local and regional governments constitutes a vortex of anti-values affecting organizations and the country. It is a complex phenomenon that develops in complex

organizational systems, seen from social and cultural perspectives. The central governments in office, with the relevant control and prevention institutions, do everything possible to reduce or eradicate it; however, to date, they have not been able to reduce it, much less eliminate it. Faced with this complex socio-cultural phenomenon, it is necessary to confront it with transdisciplinary strategies: understanding corruption as a complex socio-cultural phenomenon, making organizational information visible, applying quantitative and qualitative scientific research for a real and deep understanding of the phenomenon and, above all, to confront it with the summoning of researchers from different disciplines in an integral and unique work for each corrupt institution. It is not only a matter of explaining the phenomenon of corruption but of confronting it, reducing or eradicating it with the powerful tools of scientific research united in its various disciplines and from a holistic and integral work.

Keywords: corruption, transdisciplinary research, local and regional governments.

1. Introduction

Due to their complexity, the ever-growing world population has configured a new way of approaching the study of social events. During the middle Ages, disciplinary research generated greater knowledge due to the creation of universities, which led to the fragmentation into disciplines that today are even translated into sub-disciplines (Ramadier, 2004). Social and cultural problems, such as corruption, began to be studied from a disciplinary perspective, and each discipline studied the phenomenon. This conception acquired greater strength at the end of the eighteenth century with the scientific revolution when the disciplines defined their language, codes and systems of legitimacy (Uribe, 2012).

However, the study and solution of social, cultural, political and other problems continue to be approached from a disciplinary perspective. Social complexity and the generation of problems that are also complex make it necessary to opt for inter and transdisciplinarity to generate scientific knowledge and, based on this, propose strategies to solve the various problems that affect society and nature. Unlike disciplinarity, whose nature is to approach problems atomistically, inter- and transdisciplinarity approach them in an integral, holistic way.

It is useful to clarify the definition of terms so as not to create confusion in this article. Interdisciplinarity involves approaching problems from different disciplines, for example, within the social sciences and the natural sciences; or between the social and natural sciences (Lyall and Meagher, 2012). There is a disciplinary interrelationship; data, methods, techniques, and theories from two or more disciplines are integrated. Monodisciplinarity consists of approaching a problem from a single discipline (Groot, 1992); meanwhile, multidisciplinarity approaches a problem from more than one discipline and with additive results among them (Groot, 1992). Transdisciplinarity, on the other hand, brings together many disciplines, not only to interrelate in a joint approach but also for the disciplines to transcend into a whole in a holistic perspective that enables the integration of information, data, tools, techniques, concepts and perspectives (Nissani, 1997). Winnacker (2003) and Ramadier (2004) agree that the complexity of the object of study, whether social or natural, denotes the need for a transdisciplinary approach.

Transdisciplinary research (TDR) assumes or should assume complex diversity and defend a model of coexistence oriented towards participatory democracy and the community to project itself towards globality and the solution of complex social and natural problems. Once the problem has been identified, for example, corruption, the aim is to approach the

explanation of the problem and its intervention for its solution, from a holistic viewpoint, with the intervention of various disciplines (researchers). Epistemologically, it is approached from the positivist, interpretative and socio-critical paradigms. It complements and, above all, serves as a basis for measures taken by governmental and other institutions to combat the problem head-on.

Both nature and society are complex constructs. Complexity is linked to systems integrated by different materials, for example, social, physical, and biological, among others, that interact with each other, where different processes are involved that cannot be isolated from each other (Ramírez Gonzáles, 2016). It is an interaction between elements that establish relationships of memory, feedback and adaptive capacities (Johnson, 2007).

Social complexity has consolidated the problem of corruption to such an extent that this scourge has spread in society and is, in turn, a complex problem directly related to the complex society. People, through their ways of acting and living together in a complex society, contribute to the spread of corruption in its evolutionary variants. In culture, corruption is defined as the act of benefiting economically in an illicit way. Corruption is understood as offering money in exchange for something, a service, or a good. The corrupt is the one who receives money; however, the term "corruption" is multi-semantic, and it corresponds to several semantic fields. The act of corruption is not a single action separate from the complex system of man; it constitutes the systemic corpus itself. Even from the perspective of religion. Pope Francis (2016) refers that it is a condition, a personal and social state in which the person gets used to living. Thus, corruption is understood as social complexity web; approaching social problems from complexity allows opening paths to update and renew it to empower the capacity to face current challenges (Becerra, 2019).

Meanwhile, Peña (2013) defines it as damaging, perverting, perverting and spoiling in a manipulative and utilitarian way for unhealthy purposes. Corruption eliminates the creative values inherent to the healthy person and contaminates the culture. It is identified from two clinical perspectives: (1) the fact that a person can become corrupt at a particular moment, reactively or actively, without the problem becoming chronic, but it occurs in a transitory way, which does not necessarily involve the subject's identity in its totality; (2) the other consists of the person becoming corrupt and covering up the corruption in himself, which implies corrupting other subjects, in a sort of vortex that drags the problem to other contexts. This is more dangerous because it jeopardizes ethics, culture and the integrity of society. Corruption is as old as man himself. It has occurred since people sought resources to survive, becoming part of the culture. It is not that it has been socially accepted, although it has been permitted and required. As Brioschi (2010) points out, corruption is a phenomenon that has always accompanied the human being, being understood as a defect that accompanies man since his earliest childhood. Corruption has no borders, although it affects contemporary societies, with greater emphasis on those that represent a marked social inequality (Batista and Meirelles, 2019). Countries with developing economies present high rates of corruption perception (Transparency International, 2017b). Research in Brazil reported that corruption is associated with factors such as irregularity incidence in mismanagement and organizational incapacity (Araujo et al., 2021).

Corruption is a variable of profound social significance and significantly impacts other variables in public and private organizations. It is studied from a quantitative and qualitative scientific perspective, although the latter to a lesser extent. It is a variable that functions as a causality and as a consequence, which means that it is associated with a social complexity of significant depth. An organization, understood as a social creature, is composed of people behaving

(Simon et al., 2010). People show certain behaviors according to their individual conditions and "of the ties and relationships they compose with others, in a framework of certain formality and a certain degree of domination that seeks" (Arellano, 2016, p. 815). There is undoubtedly a tendency of certain behaviors towards corruption, for example. Corruption is directly related to the type of behavior of the person who performs it. Therefore, when discussing corruption, it is inescapable not to refer to the organization where corrupt people and victims coexist.

Corruption has become widespread in society to such an extent that there is talk of the "institutionalization of corruption," which refers to it being seen as "something normal." Should one continue with this trend of social perception? Should public organizations or institutions be reengineered to reverse this situation? It is necessary. It is about deinstitutionalizing this scourge that damages the country's structure. As Arellano (2016) points out, it is necessary to denormalize corruption, although it is extremely difficult to do so. "Difficult because it implies going deep into social relations, into the processes that have turned into a routine a series of behaviors that can even be found already rationalized" (p. 823). Difficult is not impossible; what is certain is that this social scourge that has become cultural must be banished. This titanic task can already be started "if it is accepted that corruption is ultimately a social category highly charged with values and expectations" (Rose, 2014, p. 4).

Consequently, in this society characterized by its socio-cultural complexity, corruption is not an isolated problem but is the product of a series of factors; therefore, its intervention must come from the disciplines of Anthropology, Sociology, Economics, Education and Health, Geopolitics, and Psychology, among others. In this case, the disciplinary intervention is based on transdisciplinary research to address the corruption problem. Corruption has become widespread in local and regional governments throughout the country. Its nefarious practice, in its diversity of variants, has practically become institutionalized to such an extent that society considers it a practice difficult to eradicate and seems to be admitted since a portion of society is part of it. Punitive actions have been carried out to confront it; nevertheless, this social scourge persists rooted in local and regional governmental structures.

Given this situation, from the perspective of the execution of transdisciplinary research (TDI), it can be demonstrated, on the one hand, the identification and explanation of the causes and consequences inherent to this problem and, on the other hand, to intervene with actions to contribute to reducing this unscathed evil that does so much damage to the country as a whole. The DTI transcends and complements the various disciplines, integrating them and synthesizing each scientific discipline's theories, methods, techniques and contents to have a holistic vision and seek solutions to various problems. Although the concept refers to the transcendence of disciplines to address problematic situations in society, it is necessary to quote Bunge (2004), who points out that "genuine transdisciplinary research is still scarce in the social sciences" (p.214). There are different perspectives on transdisciplinarity, a term coined by Piaget (1979), later referred to by Morin (1974, 1981, 1997), and Nicolescu (1996), who states that transdisciplinarity is contrary to reductionism in that it recognizes the existence of different levels of reality and that they are governed by different logics while implying rigor, openness and tolerance in research work.

The DTI goes beyond homogenization and reduction, typical of disciplinarity; it emerges from the coexistence of complex plurality and represents open unity (Klein, 2002). It seeks to explain events from their multidimensionality, and it is characterized by being open to interpretation from diversity for a broad understanding, which will allow for solution proposals closer to the complex reality. The TTI is also transcultural because it seeks to recognize the existing relationships between different cultures so that the knowledge acquired from cultural

connections is a product of the influence and richness of transcendent socio-historical processes that complement the manifestations of particular cultures (Nabudere, 2012). This idea is complemented by what Betancourt (2016) points out, in that although each civilization develops its science to understand the world, this is taken up, retouched and altered in other contexts to seek solutions to problems. Hence, the ITD is contextualized using discipline to address problems corresponding to a complex reality.

RTD seeks to perceive the problems of the world, recognizing the validity of the knowledge produced from the sciences and popular knowledge, seeking the integrality of incomplete approaches of each discipline that works in a particular way and the limits of the research group (Herrán-Gascón, 2014); it is about identifying complementarities and contradictions, as well as common points and alternative visions (De Sousa, 2011) when knowledge is generated. With the TTI, the aim is to produce knowledge integrally, in which there is collective learning that allows a reflection regarding the values that govern the production of knowledge (Nicolescu, 2013). Reflection based on the processes and results of research, integrating them into a whole, allows the study problem to be approached in its complexity. Reflection should consider the values, beliefs and assumptions affecting the methodological proposals when approaching a problem (Wickson et al., 2006).

A holistic view of the problem of corruption in local and regional governments should not be exempt from the link between science and politics. Understanding this duality will lead to proposing measures to address the problem. Thus, the TTI should promote synergy and communication that transcends disciplinary boundaries between researchers, generating new knowledge and transcending current knowledge bases. If science explains policy behavior in an organization and policy develops based on scientific knowledge, then the duality will show signs of efficiency and effectiveness. What happens if policy behaves in a way that bypasses science? Mistakes are likely to occur. For example, the knowledge that respect for ethics leads to appropriate behavior, which avoids the temptation of corruption, is a proven scientific assumption. However, when talking about the disengagement of the political subject from science, in other words, it does not meet the assumption that the act of corruption occurs.

How can corruption be tackled through scientific research? Will quantitative scientific research be able to deal with this complex problem? Corruption, rooted in public institutions and organizations in general, is a complicated variable to measure and, even worse, to solve. As Castañeda (2016) points out, there are no instruments to capture it objectively; also, actions located on the thin line between legal and illegal may be excluded. Along the same lines, Elbahnasawy and Revier (2012) argue that many attempts have been made from a quantitative approach to elucidate these aspects but have not been successful. Tackling corruption from the perspective of transdisciplinarity means approaching the central problem from multiple disciplines, fundamentally from a holistic vision. Multidisciplinarity is not enough, nor is interdisciplinarity, but the integrality of the many existing disciplines directly associated with the problem is essential. In today's "postmodern" times, where there is an open criticism of the idea of "discipline" that emerges in the light of modernity (Lanz, 2010), it is not coherent to conceive disciplinary knowledge in isolation. Disciplines alone are not strong enough to respond to society's many complex problems.

II. Method

The research is developed from the perspective of the interpretative paradigm, the qualitative approach, whose scientific method is inductive, whose nature is explained as going

from the particular to the general in understanding the social reality deeply and constructively. The applied design is hermeneutic-phenomenological since the results of the interviewees are interpreted and converted into the text from the position of the experiences and feelings of the participants.

The participants were seven, all linked to public organizations, including local and regional governments; they hold master's degrees and are doctoral students in the Public Management and Governance program at a Peruvian university. Initially, the study had five participants, who later increased by two more to reach a saturation point. They all participate in a university-institutional macro-scientific research project: quantitative and qualitative, whose research lines correspond to the country's governance and public management.

Table 1. *Research participants*

1	An industrial engineer by profession, civil servant and researcher of the corruption phenomenon
2	Inspector of the Ministry of Foreign Trade and Tourism; researcher on corruption issues in local governments.
3	Education sector employee in a state institution
4	Civil servant and university lecturer on social issues
5	Civil servant and specialist in social and organizational issues
6	Physician, a specialist in family and community health care medicine; civil servant
7	Physician, a researcher in social and organizational issues

The technique applied in the research was the interview; the instrument was an in-depth interview guide. The application procedure considered research ethics: justice, beneficence, non-maleficence, autonomy and unrestricted respect for the participants' answers to open-ended questions. The answers were converted into Word text and submitted for categorization, analysis, interpretation and discussion with previous studies and approach theories. As a result, the research presents scientific rigor because it meets the criteria of credibility, auditability and transferability of the data for future research and the development of scientific knowledge.

Categorization matrix

Categories	subcategories
1. Socio-cultural complexity of corruption	Insights on corruption
	Invisibility of information
	Social and cultural anti-values that generate corruption
2. Transdisciplinary strategies for dealing with corruption	Understanding corruption from complexity theory
	Shaping disciplines for transdisciplinary work

III. Results and discussion

The research results are presented below, organized into two main categories and their respective subcategories; simultaneously, the results are discussed to organize the information construct better.

Category 1: socio-cultural complexity of corruption
Subcategory 1: appraisals of corruption
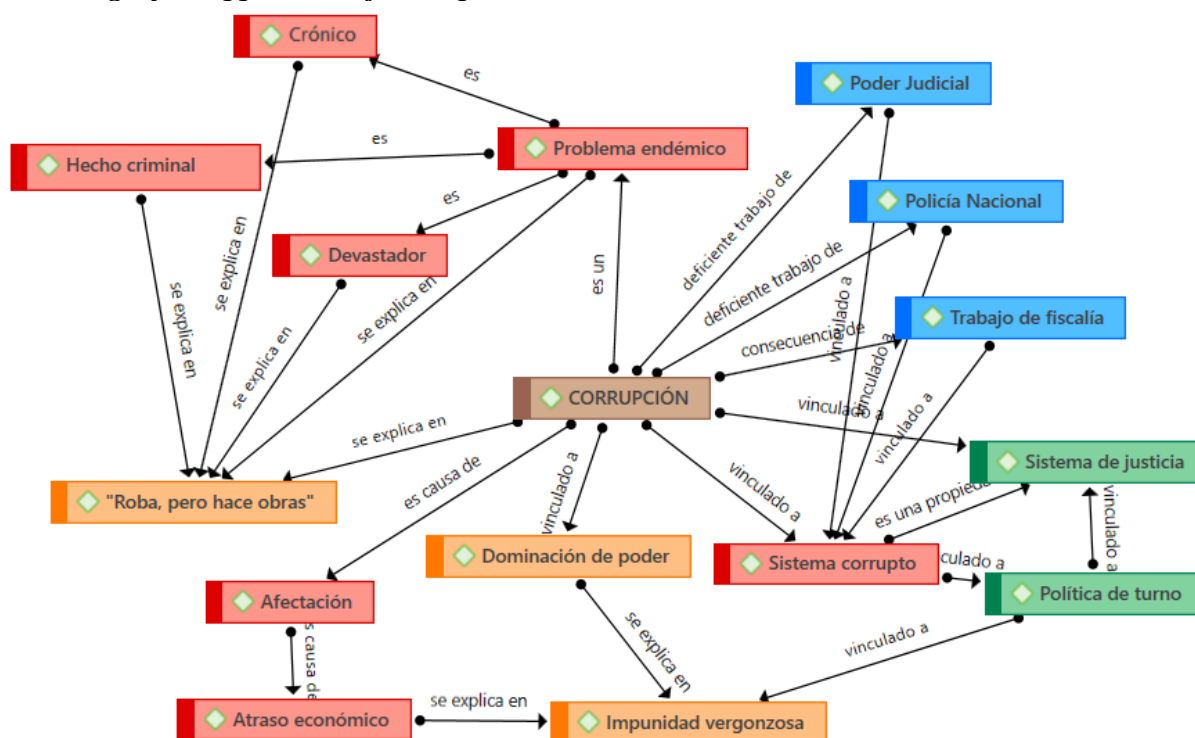
Figure 1. *Respondents' perceptions regarding corruption in public institutions*

According to the results, corruption in the country's local and regional governments is an endemic, chronic problem, a criminal and devastating fact, a great pandemic long before covid-19, which occurs in those who hold power in the municipalities and governorships, protected by the phrase: "he steals, but he does work." This problem is not an isolated fact but is linked to "the bad work of the prosecution, the judiciary and the police" (E1), which leads to specify "that the entire justice system is also corrupt or allows itself to be dominated by the power or influence of the current political and economic power" (E1), "which ends in a shameful impunity" (E7). The consequences are the "backwardness of the country's economic, educational and social development" (E4), in addition to the affectation of a good administration of justice, security and integrity of people. The assessments held by the interviewees are in line with Mujica, Melgar & Trigoso (2017), who, in their research regarding corruption in regional governments in Peru, found three forms of corrupt interactions: charging 10% (tithes) to companies to win bids; participation of intermediaries between corrupt officials and national or international companies to take charge of the works, before payments; and, the corruption that links officials with networks related to illegal markets and economies. These forms of corruption occur, among others, due to weak oversight and limited transparency in bidding processes, weakness of society and the anti-corruption system, which are elements involved in illegal schemes.

As Henao-Pérez & Isaza-Espinoza (2018) argue, corruption is a despicable and antidemocratic social scourge, grotesque and unsightly, regrettable and sadly usual, it is a disease that corresponds to our culture, which must be overcome. Crossing the line of corruption is a personal decision; it is deviant behavior that corresponds to the order of personal morality and has repercussions on social morality (Vanegas-Carvajal et al., 2020). About the forms of corruption, the research by Newman and Ángel (2017) reports that one of the main forms is bribery, understood as a bribery crime by offering something, money, for example.

Another form is the appropriation of state assets, followed by extortion. Other corruption indicators identified by the study are embezzlement, influence peddling, fraud, nepotism, conflicts of interest, secret collusion and the use of private information for public or private decision-making.

Subcategory 2: the invisibility of information

Figure 2. *The invisibility of information from local and regional public institutions*

Information in local and regional governments is a public good, so it must be made transparent for the population to know what their rulers are doing. According to the research, although there are mandates for public information to be transparent, however, in many localities and regions of the country, there is no accurate information on local and regional events carried out by their authorities, depriving them of the right to information and citizen participation for good governance. The "budget execution of friendly consultation on the page of the Ministry of Economy should be more understandable for the ordinary citizen" (E1; "in some municipalities certainly far away and with little connectivity there is no control of information" (E5). The cases of corruption in the regions of Callao and Ancash, brought to light by the information, show that there was no transparency in the information at the time, in addition to the role played by some media that did not inform with the truth or inform partially; "they are allies of corruption, informing according to what is traded, despite the obvious, they make up the information, they give the people what they want to hear, the information is distorted and whimsical" (E5). Faced with this problematic situation, the investigations carried out in local entities should be made visible to generate reflection in citizens, especially those involved in corruption. However, Penkova (2011), in a study carried out in Ibero-America, refers that scientific publications in the region are characterized by low dissemination and visibility, in addition to the fact that they have deficient management schemes for the scientific data presented in their contents.

The research conducted by Católico and Santos (2018) reports an inverse relationship between the means of transparency in public administration and corruption, indicating that the greater the corruption, the lower the transparency in local governments in 17 departments of Colombia. In this case, the transparency of information and actions is limited in access to them because there are incentives for corrupt public managers not to make their management visible to the population. Meanwhile, Transparency International (2010) argues that corruption can be addressed through transparency in public administration, which is manifested in access to information and the implementation of effective control mechanisms. Although these are not the only measures, they are nevertheless the first step in tackling corruption. In a corruption scenario, the information constitutes an obstacle for the corrupt (Searson & Johnson, 2010), which means that the corrupt avoid disclosing their management to the different social interest groups. In addition, public officials' rules, plans, actions and processes must be transparent, which implies that citizens can hold them accountable (Transparency International, 2017a).

Subcategory 3: social and cultural anti-values that generate corruption
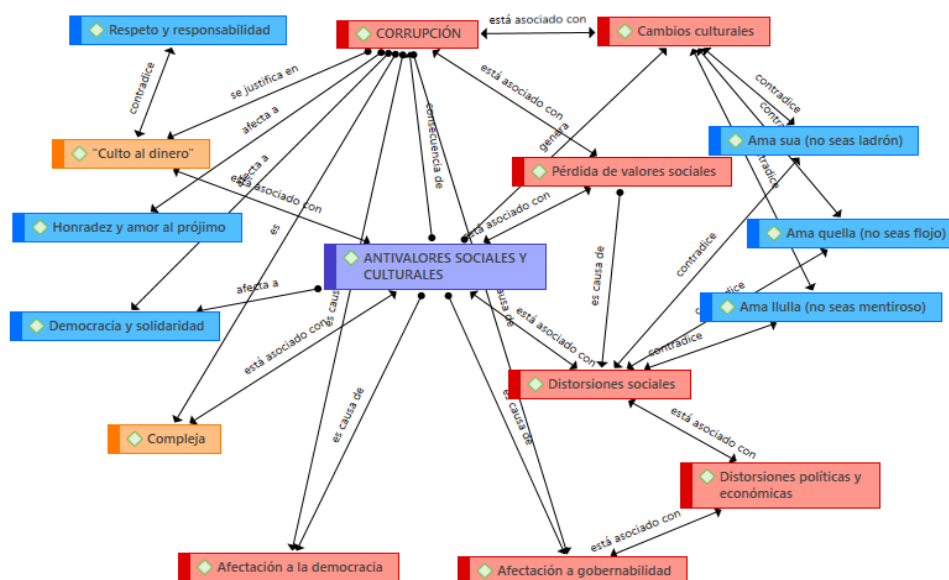
Figure 3. *Social and cultural anti-values that generate corruption in public institutions*

Peru is a multicultural and socially heterogeneous country, which makes it a complex nation. This explains that corruption is also complex; it is in the roots of the society itself and has coexisted with it for a long time, since the dawn of the republican era. According to the research, the ancestral values of the Incarnate: ama sua (don't be a thief), ama quella (don't be lazy) and ama llulla (don't be a liar), which distinguished ancient Peru, have been lost in the vortex of modern social and cultural changes, social values have been affected: respect, responsibility, freedom, equity, democracy, solidarity, honesty and love for others; it has given way to the "cult of money" due to corruption, which is "the mother of vices that harbors parasitic actions" (E3). In this regard, the research conducted by Sánchez (2015) reports that corruption is considered an anti-value that brings with it severe consequences in the ethics and morals of society and generates severe social, political and economic distortions that directly affect the country's governance and puts democracy at risk. Some research reports that the relationship between corruption and democracy is one of causality (Chaparro et al., 2021).

Corruption is a multifactorial variable. It is a complex variable. Its transdisciplinary approach consists of talking about interrelationships if the scientific methodology is taken from the systemic, holistic perspective, where the parts constitute a whole and which makes feasible

relationships that are not linear, simple and unidirectional but exchanges and complementarities. Starting from the premise that the subject is a complex being, and its relationship with corruption establishes a complex link, its approach must be based on complex knowledge. Atomism is the separation of the whole into its parts, and the idea of studying better in a specific way currently has no basis for solving social problems impregnated with complexity. It is undoubtedly a matter of compensating the potentialities of some disciplines to others, whether as methodological tools or as epistemological explanations.

Morin's great contribution to complexity sustains the need to unite the object torn apart by modern science. If the subject of study, corruption in public institutions, forms an organized whole, its elements are not separable, nor should they be studied in isolation (García, 2006). Corruption, as an object of study, is multidisciplinary. There are many factors associated with it, and along these lines, it should be approached from a multidimensional perspective, not only to explain the behavior of the"corruption" variable but also to confront it, seeking to attack it or, in the best of cases, to banish it institutionally.

Category 2: transdisciplinary strategies for dealing with corruption
Subcategory 1: understanding corruption from complexity theory
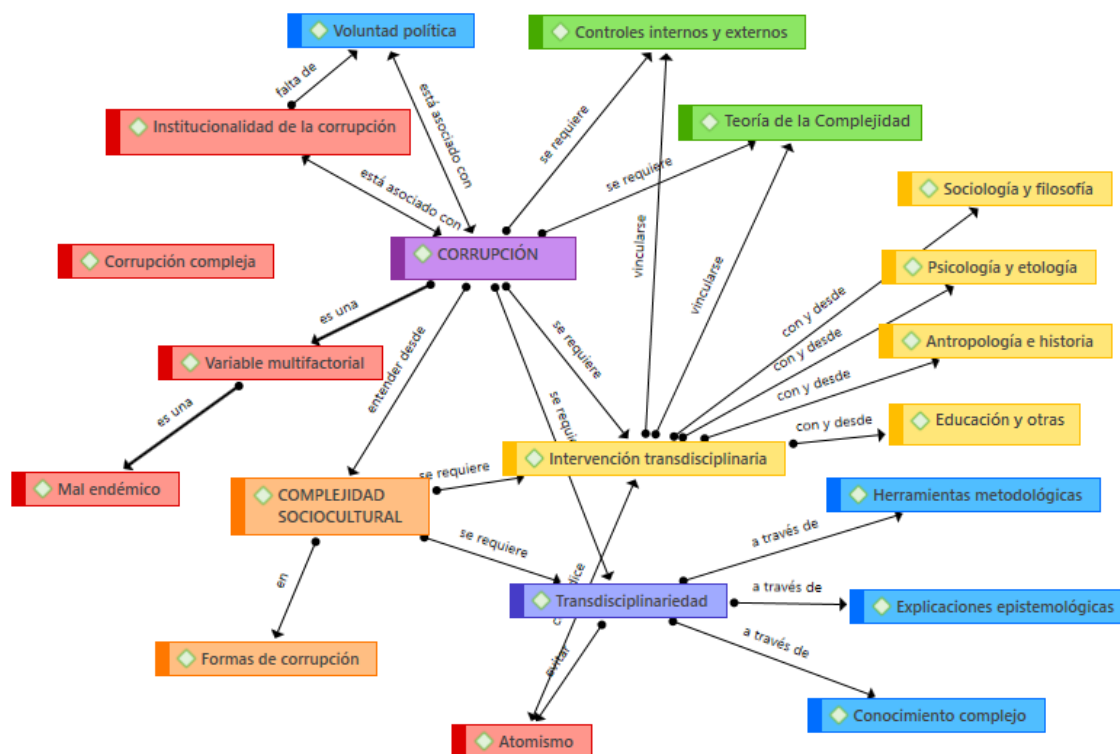
Figure 4. *Respondents' perceptions of corruption in local and regional public governments*

According to the data obtained, corruption is very complex; it is directly related to the complex society to such an extent that the problem has become institutionalized to such an extent that the saying "steal but do work" is in daily use among people who comment on political, economic, social and other aspects. The "intricate forms of corruption" (E4), because "corruption is not only in the top officials but at all levels from the gatekeeper to the president of the Republic" (E4), suggests that this endemic evil "is powerful and very abundant" (E1) and challenging to eradicate. To confront it requires much more than the political will of the rulers, and measures of internal and external controls in corrupt institutions, so "psychology, philosophy" must intervene as forms of disciplinary interventions, to which must be added

"sociology, anthropology, ethnology and history" (E1). Since corruption is complex and underlies social and cultural complexity, it requires an approach from various disciplines as intervention strategies from many disciplines.

The results show that corrupt people have psychological illnesses, which would explain the saying: "crime does not require pay" (E7), which leads to affirming that, despite the controls, the penalties imposed and executed in corruption cases at present, corruption continues and grows more. Faced with this endemic, structural and complex problem, a transdisciplinary research approach is urgently needed, not only for its understanding but also for its solution; it must be addressed "from social disciplines such as anthropology and psychology..., from their culture and history, and their religion or point of view or philosophy of life. Also from the normative legal aspect and the sciences of administration and engineering" (E7). Currently, the problem is addressed in the legal, political and economic spheres, "however, there are more disciplines that intervene and can better refine responses to corruption" (E1), creating "institutional capacities for prevention, combat and eradication" (E5). It constitutes "a good alternative for analyzing corruption to propose solutions" (E7).

All the interviewees affirmed that, in the face of corruption, which presents social and cultural complexities, among others, it is necessary to carry out scientific research, from and with different disciplines, with a transdisciplinary approach, which should include: "Social aspects. Psychological, philosophical, political, economic, ethnological, historical and linguistic aspects, among other" (E1), and "complexity theory is the appropriate way to explain these crimes" (E7). The approach from an atomistic conception, considering quantitative or only qualitative scientific research and by single disciplines, is ineffective since "the variations experienced by systems of complex properties can lead to situations in which they are not predictable and very small variations in the initial conditions cause large irregular changes" (E2), so "complex problems must be approached from a holistic view" (E5). In this way, complexity theory explains that complexity is the study of complex adaptive systems (Pearce, 2006; Rickles et al., 2007). The theory recognizes the objects of research and their problems in a complex way, in interrelational processes with their contradictions and dialogues, and in mobile dynamics between the all-part-whole as recursive loops and not in a linear way (Morin, 2003). Thus, promoting systemic perspectives and thinking has contributed to understanding the perspective of the whole and the part as relational moments (Gómez, 2020).

A system is a set of elements that interrelate directly or indirectly to modulate their behavior (Hincapie-Palacio and Ospina-Giraldo, 2013). The corruption in an organization develops from the system's complexity, which is the social organization. Therefore, the organization is a complex system because its globalized behavior is not the sum of its parts, and it is adaptive because it can change (Romanelli, 2006). The complexity is due to the peculiar nature of relationships, such as non-linearity, the impossibility of decomposing the system into its parts, and unpredictable or unexpected behaviors that often generate self-organization or self-regulation (Kannampallil et al., 2011). Meanwhile, Castañeda (2016) argues that corruption research requires multidisciplinary work because the corrupting agent does not decide only for monetary gain but "takes place under a certain institutional framework so that the phenomenon does not spread homogeneously between countries" (p. 106). Developing transdisciplinarity "requires a complex conception of knowledge, the world and oneself as a subject (Carrizo, 2004, p. 47).

Addressing corruption in public agencies requires joint work from a holistic perspective; disciplinary atomization does not address the complexity of the problem, seen as a multifaceted social phenomenon that is difficult to grasp due to its nature, which adopts a

diversity of forms and functions about the context in which it occurs (Andvig et al., 2001). It must also be approached holistically as a structural problem with political, social and economic connotations. Corruption understood as an eminently socio-cultural phenomenon, must be approached in relation to the context as a whole (Julián & Bonavia, 2017). Although corruption is equated only with bribery (Philip & Dávid-Barrett, 2015), which is an atomistic view, this phenomenon is so complex that it presents a series of edges, so its approach must also be from a holistic view.

Alba & Sánchez (2019) report that it is necessary to address corruption in higher education institutions through scientific research to produce knowledge regarding corruption and, based on this, to seek peace and reconciliation, which seek to generate reflection in the population, especially in the people involved in the problem; for this purpose research must obtain the greatest possible visibility to reach the general public. Although the problem of corruption has been -and is- approached from several fronts, including from disciplinary scientific research, its approach from transdisciplinarity does not mean contradicting disciplinary research; it serves as a process of complementarity and integration and not dissolution, as Vélez et al. (2018) argue in their study regarding transdisciplinarity. In fact, according to the cited authors, both disciplinary and transdisciplinary will continue to coexist and share their contributions to solve different social problems, including corruption.

The approach to corruption from the paradigmatic perspectives of scientific research: Positivist, Interpretative and Socio-critical, with its diversity of methodological designs, will be effective. It is effective because it mobilizes a series of approaches and designs of scientific research. The challenge is enormous but achievable. Transdisciplinary research involves the integration of different methods, designs and techniques. The interactions"between the whole and the parts cannot be analyzed by dividing the system into a set of partial areas corresponding to the disciplinary domain of each element" (García, 2006, p. 88). Galvani (2005) refers to an analogy that explains this: "Just as a tree is of interest to reforestation, carpentry, painting, poetry, chemistry, all perspectives help, but none of them can close the understanding of what the tree is" (p. 17).

Subcategory 2: integrated disciplines for transdisciplinary work

Figure 5. *Approach to reducing corruption in local and regional governments through transdisciplinarity*

Tackling corruption in its complexity from transdisciplinary research requires that the different disciplines not only interrelate and complement each other but that a holistic vision is formed, that they are integrated into a whole, and that the disciplines are transcended for a single purpose: to reduce corruption. "A transdisciplinary approach is needed in which an issue or problem or aspect of reality that is investigated through various disciplines is understood underlying mechanisms hidden from the disciplinary vision" (E2). Faced with this anomalous situation, from the social, cultural, economic and political perspectives, among others, addressing it and confronting it with transdisciplinary research will have results that will substantially reduce it and, in the best of cases, banish it definitively. It is a matter of integrating various disciplines to address it: psychology, anthropology, economics, sociology, administration, law, and education, among others. Each discipline brings its theories, methods, and techniques, among others, to do macro research that transcends as a whole as an integrality. To this end, it is necessary to convene researchers and professionals from the disciplines to carry out a transdisciplinary research project and conduct the research, whether quantitative, qualitative, or mixed. What is important and transcendent is that each disciplinary researcher works from their scientific perspective to address the problem of corruption, not only by explaining how the problem manifests itself, what are its causes and implications but, above all, by contributing to solving the problem. Transdisciplinary research promotes and promises new ways of governance that, although they open alternative paths, are adhered to a neoliberal order: "doing better with less" (Jacob & Hervé, 2022).

Perry and Saavedra (2018) propose a comprehensive strategy to address corruption in the public organizational sphere that produces a transformation in three areas: institutional, political and sociological. In the institutional sphere, understanding that the lack of transparent information that should be provided to the population affects legitimacy, the decisive intervention of the Public Prosecutor's Office and the control and oversight agencies is required. In the political sphere, accountability for the resources they administer and their decisions or omissions of actions related to public administration should be mandatory. As for the sociological aspect, probably the most complex, it requires transformations that imply changes in the institutions, with the participation of the empowered society, under the fulfillment of the citizen ethics, to avoid the capture of the organizations by corrupt people. The frontal fight against corruption is not limited to merely applying control measures.

Conclusions

Corruption in local and regional governments has been entrenched for a long time. It constitutes a vortex of anti-values affecting organizations and the country. It is a complex phenomenon that develops in complex organizational systems, seen from social and cultural perspectives. Therefore, it must also be approached from the socio-cultural complexity. The central governments in office, with the relevant control and prevention institutions, do everything possible to reduce or eradicate it; however, to date, they have not been able to reduce it, much less eliminate it; on the contrary, it is becoming more evident every day, and some signs are coming to light through the media. Faced with this complex socio-cultural phenomenon, it is necessary to confront it with transdisciplinary strategies: understanding corruption as a complex socio-cultural phenomenon, making organizational information visible, and applying quantitative and qualitative scientific research, for a real and deep understanding of the phenomenon and, above all, for its confrontation with the summoning of researchers from different disciplines in an integral sand unique work for each corrupt institution. By integrating them, the disciplinary methodologies, content and theories that enrich it, will allow them to transcend the organization, implementation and evaluation of the

problem transdisciplinary. Therefore, it is not only a matter of explaining the phenomenon of corruption but of confronting it, reducing or eradicating it with the powerful tools of scientific research united in its various disciplines and from a holistic and integral work.

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