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From the supposed digital transformation to the risk of social control: the digitization of virtual general assemblies of Brazilian cooperatives

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Abstract

The paradigm of technological, digital transformation altered the structure of capitalism and fostered a new perspective on social interactions, now based on the information society. Although new innovative concepts need to be understood, often they are not due to semantic and epistemological mistakes that relativize the importance of digital transformation and put the continuity of organizations at risk. Based on the inductive method, structured in bibliographic and documentary research, this article analyzes how a lack of understanding of the expressions digitization, digitalization and digital transformation in general assemblies of cooperatives led their managers to believe that the digitization of assembly acts represents a complete digital transformation. This mistake puts cooperative participatory democracy at risk through the growth, through digital modulation, in social controls already practiced in many face-to-face assembly meetings. The digitization that occurred in the general assemblies of Brazilian cooperatives, accelerated by the COVID-19 pandemic and admitted in Brazilian law, seems positive, but should be understood only as a first step in a digital transformation based on the exercise of participatory democracy as a value and towards integration through open and fluid debate as a principle.

Palavras-chave

Companies. New Technologies. Cooperatives. General Assemblies. Digital Transformation.

1. Introduction

The importance of studying this topic in the context of cooperatives is justified by their role in the Brazilian economy. The cooperative system is responsible for a significant share of national agricultural production and has expanded into other fields, such as credit, where it also shows substantial figures. According to the 2024 Cooperativism Yearbook, the total number of people involved in the cooperative system reached an

impressive 23.45 million people, representing approximately 23% of the economically active population.

This work is a case study based on the Brazilian cooperative system because the legal framework applicable to cooperatives promotes broad member participation in the decision-making process through general assemblies, which are considered the supreme governing body of the society. Within legal and statutory limits, the assembly has the authority to decide on matters related to society's objectives and make decisions for its development and protection. These resolutions are binding on all members, even those absent or dissenting.

However, due to the COVID-19 pandemic, remote general assemblies were permitted, replacing in-person interaction among members during the assembly, a time traditionally used for dialogue and the presentation of both converging and diverging ideas in a very personal manner. With the digital model, the personalized, face-to-face interaction characteristic of the cooperative system since the regulation of this model has been lost.

The discussion point starts from the premise that the Fourth Industrial Revolution, as Klaus Schwab suggests, is driven by radical technological transformation via the digital world, capable of altering production factors and, consequently, the very structure of capitalism. The result is a complete shift in the perspective of social relations, now experienced under the logic of networks within Manuel Castells' informational society. In this context, Schumpeterian concepts of innovation are grounded in the mantra of digital transformation.

However, a poor understanding of the various technological and computational concepts associated with the digital sign has led organizations to adopt terms that are sometimes disconnected from the concept of innovation, lacking a precise understanding of what can effectively be considered digital transformation. These semantic and often epistemological errors limit the potential of the digital paradigm, which, according to Jason Bloomberg and MaryAnne Gobble, may endanger the continuity of organizations.

Therefore, this article aims to analyze how the misunderstanding (including in translation) of the terms digitization, digitalization, and digital transformation, which are part of the structure of digital innovation, has led Brazilian cooperatives and their managers to believe that the digitization of their general assembly's constitutes a complete digital transformation.

The study seeks to demonstrate the risks that the digitization of general assemblies, currently held online, poses to cooperative democracy by amplifying social controls sometimes already exercised by representative and management bodies in face-to-face meetings. This threatens the cooperative model by eliminating effective participation and member integration in decision-making processes, safeguards that are legally mandated and enshrined in the principles of cooperativism.

To address the issue presented in this article, the hypothetical-deductive method is applied, initially through an extensive literature review focused on understanding the terms digitization, digitalization, and digital transformation. Through documentary research, it also examines the process of virtualizing general assemblies in Brazilian cooperatives. Supported by bibliographic research, it reflects on the potential for digital transformation in the assembly environment, which remains nascent with the mere digitization of its acts. The incomplete digital transformation of assemblies may perpetuate and intensify control practices, not infrequently through the manipulation of assembly dynamics under a false paradigm of change or digital innovation.

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2. Why study Brazilian cooperatives?

The Brazilian cooperative system is regulated by Law No. 5,764, dated December 16, 1971, which established the National Cooperative Policy. The core concept of a cooperative society involves a group of people who commit to contributing goods or services to perform an economic activity for common benefit, without a profit motive, but allowing for the distribution of surpluses to members. This enables cooperatives to gain scale in both production processes and the commercialization of goods or services.

It is of paramount importance to the Brazilian economy, given its growth over the last 53 years. According to the 2024 Cooperative Yearbook (with data from 2023), available on the OCB – Organization of Brazilian Cooperatives website, the numbers are indeed impressive, justifying analysis within the scope of this scientific study.

Firstly, the system encompasses a total of 23.45 million members throughout Brazil. Considering an estimated population of 216.4 million (IBGE, 2023), this amounts to 10.83% of the population being part of the national cooperative system. If we consider

the economically active population, this percentage rises to approximately 23%, with a total financial turnover reaching around 119 billion dollars.

There are 4,509 cooperatives in total within the system, distributed across the main economic activities as outlined below:

- **1.179 Agricultural sector cooperatives**
- **790 Transportation sector cooperatives**
- **702 Health sector cooperatives**
- **700 Credit sector cooperatives**
- **641 Cooperatives for work, goods production, and services**
- **276 Infrastructure cooperatives**
- **221 Consumer cooperatives**

Gender diversity should also be analyzed. Cooperatives generated 550,611 jobs, of which 52% are held by women, indicating an increasingly inclusive process.

The system is also highly relevant in the international market, as Brazilian cooperatives exported USD 8.3 billion in 2023. In agribusiness, cooperatives contributed 7.1% of all exports.

Comparatively, if cooperatives were considered companies within the Brazilian economy, some of them would rank among Brazil's 1.000 largest companies, as illustrated in Table 1.

Table 1: Cooperatives from Paraná are among the 1000 largest companies in Brazil

Posição 2022	Posição 2021	Cooperativa	Receita (em milhões)
50	47	COAMO	26.073,50
56	62	C.VALE	22.436,10
63	70	LAR	21.068,80
109	107	COCAMAR	10.322,90
131	133	COPACOL	8.805,20
146	168	INTEGRADA	8.315,90
170	164	AGRÁRIA	7.292,40
174	180	CASTROLANDA	6.941,30
176	203	FRÍSIA	6.890,30
224	-	COCARI	5.504,60
229	206	COOPAVEL	5.389,50

247	227	FRIMESA	4.808,10
253	241	COASUL	4.596,00
269	285	CAPAL	4.289,90
422	444	COOPERTRADIÇÃO	2.430,20
466	379	COPAGRIL	2.162,10
567	-	COONAGRO	1.683,30
717	769	PRIMATO	1.189,70

Fonte: Compiled by the authors. Secondary source: 2024 Cooperative Yearbook. Available at https://www.paranacooperativo.coop.br/noticias-representacao/ranking-valor-1000-dezenove-cooperativas-agropecuarias-paranaenses-estao-entre-as-mil-maiores-empresas-do-brasil-148803,

Therefore, the study of digital transformation within Brazilian cooperatives is justified, given their importance to the economy and the context of economic and social development. Cooperatives operate in 1.398 Brazilian municipalities, impacting a substantial number of individuals.

3. Literature review: the terms “digitization”, “digitalization” and “digital transformation” and the conceptual misunderstandings of literal translation

For in the current economic environment the idea of innovation has come to be understood as the order of the day, a mantra, but now linked under a logic of digital transformation of the dimensions of human life. Innovating now is necessarily bringing to the digital world the way people move, relate, gather, work, and even die. However, this logic sometimes disregards that, from a conceptual point of view, not all actions that imply changes from the analog to the digital world can be considered digital transformations and, consequently, understood as radical innovation. On the contrary, most of the time they are not.

Although this conceptual misunderstanding sometimes occurs deliberately as a means of clouding the understanding of individuals about the true objectives of a certain "innovation", in others, this misunderstanding comes from the very incompleteness or lack of knowledge of its concepts, which are also difficult to translate and/or to systematize in their etymological origins. In the case of concepts related to digital transformation processes, this difficulty is real. This means that not every change from the analog to the digital world represents a digital transformation, nor does it mean an innovation.

The need for technological development based on knowledge for the innovation and economic evolution of the market and companies is not new. At the beginning of the 20th century, Joseph Alois Schumpeter (1982), in his remarkable book *The Theory of Economic Development*, considered that the ruptures and discontinuities arising from

the emergence of novelties, sometimes technological, alter the dynamics of the capitalist system to the extent that, when they are introduced into the economic activity, they break the monotonous "circular flow" of the economy, imposing changes in the way the system should work. According to Schumpeter, these ruptures and discontinuities are the basis of economic evolution.

From the notion of doing things differently to breaking existing paradigms, in a Schumpeterian view, the idea of innovation arises as a central element both in understanding the dynamics of the capitalist system and in proposing strategies that discontinue the flow in the name of evolution. In practice, as explained by Sandroni (2011), this innovation is now understood as the introduction of a product, technique or service that presents a new set of knowledge and methods for the transformation of a certain purpose.

However, with the advancement of digital technologies, the innovation processes put in place so far have been radically transformed by what Klaus Schwab called a technological revolution transforming the dynamics of humanity.

In defending the emergence of a Fourth Industrial Revolution, Schwab (2016) highlights that innovations in the digital environment were so intense that they were brought to an inflection point, as the fusion of technologies from the physical, digital, and biological worlds presented an unknown paradigm in which the emergence of a particular innovation builds and modifies others, and vice versa.

For Schwab (2016, p. 15-16), this profound change in the perspective of human history has brought societies into a moment that is both promising and dangerous, in which traditional thinking and immediate concerns do not allow decision-makers to "think strategically about the disruptive and innovation forces that shape our future." In other words, while accepting digital technologies as a new paradigm, many decision-makers sometimes seek to limit knowledge as a form of resistance to the true transformations that the digital environment demands from individuals and society. Thus, the emphasis is restricted to the new technological means employed and not on the consequences of its use in society.

With the restructuring of industrial capitalism, in which the reproduction of capital was based on the maximization of profit through production, to informational capitalism, whose maximization is in the domain of the flows of knowledge through information, notably from the new social interactions, from work and consumption transformed by the Internet (Castells, 2020), the profusion of concepts and neologisms

around digital innovation has led to the indiscriminate use of terms, without further reflection, by companies, consultants and managers. Among them terms that are sometimes wrongly linked to innovation, such as digitization and the very understanding of the meaning of digital transformation.

Highlighting the enthusiasm of the business world around the idea of digital transformation, Bloomberg (2018), in a publication in Forbes Magazine, warned that the confusion of the terms digitization, digitalization and digital transformation does not come only from a semantic exercise, but from a reality that would jeopardize the very continuity of organizations by not allowing a clear identification of the degree of importance of digital transformation.

The translation of these terms causes conceptual confusion. Although Schumacher et al. (2016) highlight that the English language allows the distinction between digitization and digitalization, detailed below, both translations into German and into Portuguese or Spanish are simplified by the entry 'digitization'. Although the neologism "digitization" appears in commercial magazine articles (Caetano, 2021) and in consulting firms' portfolios (Profits Consulting, 2019), in Portuguese dictionaries and even in the Portuguese Language Orthographic Vocabulary search system of the Brazilian Academy of Letters (VOLP/ABL)[1] the entry does not exist, leaving only the term '*digitalização*', but limited to the idea of "the process by which analog data are digitized."[2]

Due to this conceptual distinction in English, added to the effort to avoid neologisms in Portuguese or Spanish, the article uses the terms in their Anglo-Saxon origin and whose scientific applicability of their concepts is already the object of systematic literature reviews and bibliometric surveys in different areas of knowledge, but with a focus on technology, as in the studies by Schumacher et al. (2016), Frenzel et al. (2021), Gobble (2018) and Ritter and Pedersen (2020).

Schumacher et al. (2016) were concerned at the beginning of their literature review to present the initial distinction between the terms digitization and digitalization as proposed by the Oxford English Dictionary, which since the 1950s brings the concept of digitization closer to the action or process of converting analog data, notably in the recording of images, videos, and texts to digital format. This classic notion of digitization

[1] According to the most up-to-date consultations available on their websites, with emphasis on Volp/ABL (https://www.academia.org.br/nossa-lingua/busca-no-vocabulario).
[2] Available at https://michaelis.uol.com.br/moderno-portugues/. Access on: 03 Nov. 2021.

is the one that comes close to the translation of the term *digitalização* in Portuguese or *digitalización* in Spanish, which causes confusion when translating.

By specifically comparing the digitization concepts raised in their literature review, Schumacher et al. (2016) highlighted that even in English the understanding of digitization and digitalization seems unclear, although they identified in the results of their research that the predominant understanding of digitization is in the logic of technical and technological conversion of analog signals into digital, as well as their consequent storage and transfer. In the same sense, the systematic literature review carried out by Frenzel et al. (2021) considers that digitization is limited to a technical process of data conversion in which the analogue form is a common prerequisite.

In terms of the distinct understanding of these concepts, however, Gobble (2018) goes further to explain that although digitization is indeed a direct process of transforming the physical world into *bytes*, its characterization also occurs when, in the business environment, individuals and organizations simply move a process manually made for the digital environment, without creating new forms of integration. Although digitization can, in fact, deliver operational efficiency, reducing costs and errors, its use does not change the business itself. This view is shared by Bloomberg (2018) in his Forbes editorial, which highlights that this process is not necessarily innovative because what is being digitized is information, not processes.

For Gobble (2018) and Bloomberg (2018), the distinction between digitization and digitalization is that, unlike digitization, the emphasis of digitalization is on the restructuring of processes applied through computer systems aimed at the interaction between individuals, companies and/or the public sector, that is, on the use of technology to change business models initially thought under the sign of the analogue. Ritter and Pedersen (2020) complement this necessary distinction by highlighting that while in digitization what is proposed is the change to digital of an organizational structure in which the final state is already known, in digitalization the objective is precisely a new operational proposal that seeks to change this same final state, still unknown, but certainly impacted by the informational reality. Thus, while the former does not affect the original organizational model, the latter necessarily implies affecting this model to the point of even overcoming it, in the sense intended by Schumpeter.

These same conceptual distinctions were identified by Schumacher et al. (2016) and by Frenzel et al. (2021) who, in their respective literature reviews, described digitalization as the logical change of an organization from digital technologies in order to

transform its cultural and social aspects. That is, while for Schumacher et al. (2016) the conceptualizations researched show that digitalization considers the social implications that digital life brings to the social structure, allowing a new production of knowledge and management that already admits connected life as the point of convergence of individuals, for Frenzel et al. (2021) digitalization has as a fundamental aspect the integration of technology as a way of establishing new influences on individuals, organizations and societies in general, which leads to the next step, the evolution of existing business models from new paradigms, that is, the digital transformation.

Digital transformation, although better translated into Portuguese or Spanish, but sometimes simplified in its conceptualization to also consider the existing digitization and digitalization processes, lies in the strategic change of organizations, that is, in the incorporation of a digital culture that shapes the business model, product or service proposed from the customer's perspective (Bloomberg, 2018). Schwertner (2017) adds that the characterization of digital transformation depends on the grouping of profound digital changes in three areas, namely: (i) consumer behavior, (ii) transformation of business processes (typical of digitalization) and (iii) transformation of the business model, which considers as a central element the digital shift of the organizational structure, the skills of stakeholders, the IT infrastructure of the true integration of customers through digital. Schwertner (2017) focuses on the context of business centered on the consumer society, which does not prevent or make it impossible to understand the concepts in the context of business centered on cooperatives.

The studies by Fernández-Torrez et al. (2019) and Valcárcel-Dueñas and Solórzano-Garcia (2019) serve as proofs, as they dealt with the impacts of digital transformation and digitization in the context of the Social Economy, which includes cooperatives. In both studies, the central reflection is on the ability of the digital transformation process, linked to distributed and collaborative models, to adhere to cooperative principles and drive commercial initiatives, which requires knowledge and adaptation to this reality.

That is why Hemerling et al. (2018) are so forceful in stating that the recognition of a digital transformation necessarily depends on a change of culture to the digital from the human perspective, that is, the incorporation of behaviors in the informational society that admit the change of the norms then in force for a completely different digital vision. The consideration of new competences, new forms of cooperation within a digital culture and the opening to different transversal forms in decision making must be faced

in this eminently social process. Otherwise, say the authors, there is no need to talk about transformation.

4. The merely incremental innovation of virtual general assemblies in cooperatives through the digitization of their acts

The understanding of the reality of the informational society and the consequent emergence of different processes of transformation through the digital environment cannot be restricted to the perceptions of the market or large corporations. Its correct interpretation by different business models (and by society in general) – even if non-profitable, such as cooperatives – is essential to establish how new digital technologies shape (and will shape) different organizational and social cultures within the process of human evolution, as stated by Klaus Schwab.

In the case of cooperatives, these reflections become doubly important because the exact understanding of the concepts of digitization, digitalization and digital transformation – different forms of transformation through digital as previously reflected – goes beyond the economic logic of their activities to achieve also, and mainly, the cooperation processes that structure the voluntary association of people around common goals.

In this study this understanding focuses on a recent phenomenon imposed globally and concomitantly on cooperatives with the COVID-19 pandemic: the virtualization of their general assemblies in the face of the impossibility of meeting their associates physically. This model, which was intended to be temporary, ended up consolidating and expanding into the post-pandemic period through Law No. 14.030/2020, which included Article 43-A in the Cooperative Law. To this end, the recognition of assembly sovereignty as the essence of the cooperative principle of democratic management, added to the Brazilian reality in the pandemic and the emergence of legal, normative and organizational solutions of the cooperative movement that gave legal certainty to its virtualization, but without the necessary reflection as from a technological perspective, they are a rich analytical environment for the practical evaluation of the different concepts that surround the mantra of innovation through digital transformation.

Therefore, questioning the innovation of virtual assemblies involves not only understanding the central importance of assembly events for cooperative societies, but also analyzing how the impacts of the COVID-19 pandemic caused only a first step in the

process of digital transformation, that is, the digitization of the acts already practiced under the analogical perspective.

4.1. The legal, axiological and principled essentiality of the general assembly for cooperative societies

In its global concept proposed by the International Cooperative Alliance (ICA, 2015), a non-governmental entity that integrates cooperatives around the world, cooperatives are defined as an autonomous association of people who voluntarily gather to satisfy their economic, social, and cultural aspirations, doing so through a company that is jointly owned and democratically managed by its own members.

The distinction of cooperatives in relation to other corporate models is their own legal nature that integrates elements of association and company, that is, a model that, despite not abandoning economic rationality, but without the objective of profit[3], links its social objectives to the effective participation of its members for the active decision making in a self-management regime, structured by the cooperative value of democracy which, in turn, is instrumentalized by the (second) cooperative principle of democratic management by the members (Henrÿ, 2012).

For the ICA (2015), the cooperative identity necessarily depends on the general assemblies as the democratic essence of the participation of the members, asserting that since the first modern cooperative, the notion of the personality of the cooperative business necessarily involves the integration of the associates in the assembly debates and the guarantee that the decision-making processes, by voting, will not consider capital, but respect for the freedom of individuality of each member, expressed in the one member, one vote premise.

This identity premise of democratic management in the cooperative environment has been supported by the Brazilian rules since 1932, when, with the enactment of Decree-law no. 22.239 (1932), new norms were defined for the Brazilian cooperative system, especially as the administration and control of the cooperative members in assembly are now recognized as a distinctive aspect of cooperative societies. In any case, it is with the enactment of Law no. 5,764, in 1971 – also called the General Law of Cooperative Societies –, that the principled premises then disseminated by the ICA at its 1966 Congress in Vienna, are incorporated into the legal text (de Souza, 2021).

[3] The subject is part of Law no. 5,764/1971, which deals with the national policy of cooperativism, with the definition provided in its article 3: “People who reciprocally undertake to contribute goods or services for the exercise of an economic activity, of common benefit, without objective of profit.”

By bringing, in the combined reading of its articles 3 and 4, the identity aspects of cooperatives, Law no. 5,764 (1971) expressly recognizes in sections V and VI of article 4 that the structuring of its democratic self-management is based, respectively, on the uniqueness of the vote and on the personality of the member, specifying in article 38, in turn, that the "General Assembly of the associates is the supreme body of the society, within the legal and statutory limits, having powers to decide the business related to the object of the society and to take the convenient resolutions for the development and defense of it." Thus, it is in the open, personal and participatory assembly environment that decisions are made.

With the advent of virtual assemblies, the formerly proposed assembly system suffers a rupture, because it transforms the model of meetings based on face-to-face assemblies, in which personal contact between the cooperative members was established and valued due to the bonds of a personal nature that guide the formation from the cooperative act, to a model based on the virtualization of these same relationships, with the impacts that this change generates, notably the relativization of the personal elements typical of the face-to-face act. And in this sense, the COVID-19 pandemic was the determining event for such construction.

4.2. The COVID-19 pandemic as a catalyst for the virtualization process of general assemblies in Brazilian cooperatives

Notwithstanding specific previous discussions about the possible advances of digital technology in democratic management, the use of new technologies such as Blockchain to defend the democratic premises of the cooperative movement (de Souza, 2020) and the presentation, before the Chamber of Deputies, of the Complementary Law Project no. 27 (2020), which would specifically allow credit unions to hold their general assemblies remotely, it was with the spread of COVID-19 and the declaration of pandemic by the World Health Organization, on March 11th, 2020, that the discussion on virtual general assemblies gained definitive emphasis from the Brazilian and global cooperative movement.

As stated in article 44 of Law no. 5,764 (1971), it is a legal obligation that the ordinary general assembly in cooperative societies be held annually in the first three months of the year following the fiscal year, that is, until the end of March. However, it was during this same period that the first social distancing measures were determined by Brazilian and international health authorities, leading cooperatives to be prevented from holding their mandatory general assemblies.

After questions and measures by the Brazilian cooperative movement in order to seek "the adoption of a normative measure to postpone the deadlines for the general assemblies, as well as the sending of information originated in these acts, avoiding possible sanctions for possible non-compliance with the deadline" (OCB, 2020), on March 30th, 2020, the Presidency of the Republic issued Provisional Measure 931 (2020), intended both for the extension of general assemblies and for their possible virtual realization. These actions, ponders Gonçalves (2020), took place without further reflection on the technological capabilities for holding these virtual general assemblies.

Despite this, what was actually achieved was a quick legal authorization that started a still unknown process of holding virtual general assemblies in cooperatives, triggering different ways of holding these meetings: sometimes using existing virtual meeting platforms, such as *Zoom Meetings* and *Google Meet*, sometimes developing specific platforms for cooperatives, such as the Curia[4] and Sicoob Moob[5] digital platforms. Also, with the conversion of the provisional measure into Law no. 14,030 (2020), the provisional inclusion of article 43-A to Law no. 5764/1971, became definitive to authorize the cooperative member to participate and vote remotely in the assembly.

As can be seen, then, with the express legal authorization, added to the health limitations imposed by COVID-19, cooperatives started to incorporate a different format of realization that, supposedly, would be more democratic and inclusive.

4.3. Normative Instructions no. 79 and no. 81 of the DREI as the basis for digitization of general assemblies

As seen, with the Pandemic, the possibility of holding general assemblies in cooperatives is now authorized by Provisional Measure no. 931 (2020), limiting to directing the regulation of these digital assemblies to the National Department of Business Registration and Integration of the Special Secretariat for Debureaucratization, Management and Digital Government of the Ministry of Economy (DREI/ME). And with equal speed, on April 14th, 2020, the DREI/ME publishes the Normative Instruction DREI no. 79 (2020), specifically providing for participation and remote voting in meetings of closed corporations, limited liability companies and cooperatives.

Notwithstanding its replacement by the current Normative Instruction DREI no. 81 (2020), the dynamics of virtual general assemblies as conceived since IN DREI no. 79

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[4] COOPERSYSTEM. **Curia**. Available at: www.curia.coop. Access on: 13 Nov. 2021

[5] SICOOB CONFEDERAÇÃO. **App Moob**. Available at: https://www.sicoob.com.br/web/sicoob/app-moob. Access on: 13 Nov. 2021.

has not been changed, thus allowing both the holding of semi-presential meetings, when members can vote both in person and remotely, and fully digital meetings, when the conclave will not be held in no physical location (article 1, §1, I and II).

What the reading of the provisions of the aforementioned Normative Instruction (IN) shows, however, this quick authorization for the holding of digital assemblies brought, in practice, limitations to the digital transformation of these conclaves insofar as it only allowed the digitization of their acts and formalities. In other words, with the need to quickly authorize the holding of general assemblies, until then eminently in person, to the digital model, what the regulatory body allowed was only to transfer the assembly process and its formalities of convening, installing and deliberating a process manually made for the digital environment, without creating new forms of social integration between cooperative members and their respective cooperatives.

Initiatives such as “ballot paper” as an expression of early voting sought to innovate in relation to general assemblies held in person. However, this innovation cannot be understood as digitalization, much less represent a radical innovation of the assembly process or organizational decision. This is because in addition to the proposal being limited to the registration of votes, the anticipation of these can represent, in practice, a threat to participatory democracy due to its potential to eliminate debates and the consequent effective participation and integration of members, underpinning both the cooperative principle of democratic management, as stated in article 38 of Law no. 5,764 (1971).

Thus, the virtualization of general assemblies in Brazilian cooperatives was not intended to reflect on new forms of social integration through digital media (in a social process of digitalization). Much less, it considered a possible and real cultural shift to digital, a starting point for digital transformation. What the pandemic has accelerated, from Gobble’s (2018) and Bloomberg (2018) insights, was the digitization of assembly information for later storage and registration in regulatory bodies.

And as a demonstration of this digitization, article 2 of IN/DREI no. 79, replicated by IN/DREI no. 81, is clear in determining that semi-presential or digital meetings must observe the rules regarding the respective rules already in force of the respective corporate type, typically analogue. Likewise, IN/DREI no. 81 establishes rules for the use of the electronic system (e.g., recording of the meeting) that both Schumacher et al. (2016) and Frenzel et al. (2021) call, as already seen, the simple conversion of data from analogue to digital form and where physical existence is a common prerequisite.

The risk of controlling today's digital general assemblies, merely converted from the analog medium, arises, after all, possible typical vices in the formation of the decision-making process in cooperatives can be enhanced by the interoperability of digital assembly models.

5. The risk of effective control in the digitization of general assemblies in cooperatives

It seems imperative and prudent to recognize that the emergence of the COVID-19 pandemic and the need for a prompt response regarding the impossibility of face-to-face meetings made it plausible for the regulatory body to initially limit the holding of virtual general assemblies to its digitization, that is, considering the analogical premises of typical, face-to-face meetings. This initiative, by the way, is commendable when considering that the aforementioned authors recognize digitization as a first and fundamental step in an innovative process that leads to true digital transformation.

On the other hand, it is necessary to consider that innovation processes should not always be recognized as radical or disruptive, as in the development of entirely new processes and forms of organization. Lemos (2009) emphasizes that innovation can also be seen from a merely incremental perspective, that is, limited to the simplified improvement of a respective process or organization without this improvement profoundly altering the structure already in place. For Lemos, these innovations are equally important because they allow for the growth of technical efficiency and, consequently, the expansion of applications with lower costs.

The COVID-19 pandemic apparently brought to Brazilian cooperatives and their leaders, however, the perception that the digitization of general assemblies in the manner accepted by the DREI represents a digital transformation of the assembly process. Proof of this was the research released by the consultancy Coonecta in September 2020, in which the Curia tool was presented as a case of digital transformation (Mendes, 2020). What the tool effectively proposes is to meet the regulatory requirements proposed for the digitization of in-person, analogue general assemblies, and not simply "improve the cooperative member's experience in the meetings", as indicated in the research.

In addition, the same survey reveals that for 57.6% of its 92 respondents (it is explained that the sample is not representative of the population of cooperative members), virtual general assemblies in the current forms should continue to be held. In other words, even without apparently well understanding the extension of the concept of digital transformation, a representative part of the interviewees seems to believe that the

simple assembly digitization represents the innovation of democratic management in the digital environment.

Based on Bloomberg (2018), however, this mistaken perception of the concepts may lead to the threat of the evolutionary process of democratic management itself, which will jeopardize the cooperative identity itself in the virtual environment. This is because when practicing the digitization of its acts and formalities, also on the virtual general assemblies, forms of control of the assembly body may fall, many times already observed in the presential general assemblies, such as the domain of the summons by the management, contention of the agendas, of the dynamics of discussion and creation of procedures that limit the broad debate and the consequent effective qualified participation of the cooperative members in the assembly environment.

As an example, although Law no. 5,764 (1971) guarantees members both the sovereign power of general assemblies (article 38, caput), and the exercise of their social rights without restrictions of any kind (article 37, III), the convening rules and the dynamics of these general assemblies are under the control of the elected representatives themselves (article 38, §2). Therefore, even though the law guarantees the share of associates equal possibility of calling a collective meeting, it must be considered that this authorization is only residual[6], which, in practice, conditions the exercise of democratic management to the facilitated political mobilization of administrative (and power) bodies.

A consequence of this is the notorious holding of merely instrumental, protocol and sometimes theatrical general assemblies, in which the themes of the convening agenda and the dynamics of participation are previously structured, and thus controlled, so that the cooperative members only have the task of ratifying proposals and approving the acts performed, that is, without active participation in the determination of policies and decision-making, as declared by the cooperative principle of Democratic Management by the members (ICA, 2015). This is what the ICA ponders when dealing with the risk of concentration of power in democratic management:

In any democracy there is a risk of democratic control being usurped by an elite group and this must be guarded against by actions that respect the rights of all members to participate and be engaged in a co-operative's democratic processes and stand for

[6] In this sense, paragraph 2 of article 38 provides that the convening of meetings by 1/5 of the associates in full exercise of their rights only occurs when the convening request is not met by the management bodies or the President, a factor that makes it difficult to an assembly initiative by the collectivity, even if organized.

election. Low levels of participation make it relatively easy for articulate groups, be they staff, middle and senior managers, or electoral groupings, to gain disproportionate control and influence, which is often reinforced by the group then becoming the body that sets the qualifications and rules for elections (ICA, 2015, p. 19).

As can be seen, when promoting purposefully controlled general assemblies to, even if complying with merely instrumental legal requirements, conditioning the participation of members to a merely unidirectional, homologatory communication process, what their representatives sometimes promote is the formation of a small power group that undermines the cooperative value of democracy through social control.

For the ICA (2015), however, part of the solution to this problem lies in taking advantage of technological developments in order to facilitate horizontal and multidirectional communication of members through technological mechanisms and ICT (information and communication technologies), thus allowing the creation of strategies that, without failing to observe the legal requirements of assembly validity, imply the active and qualitative participation of the cooperative members in the democratic processes of their cooperative.

It is essential that cooperatives – and consequently their members – understand and defend the true digital transformation of general assemblies through the establishment of strategies that shape the way in which general assemblies are held. That is, to paraphrase Schwertner (2017), the digital transformation of general assemblies depends on profound changes that understand the behavior of cooperative members in the virtual environment and their ability to integrate through the digital environment (Cavedon et al., 2015), transform the assembly model against the typical plastering of face-to-face assemblies – including legislative, normative and statutory proposals –, and consider as a central element of this virtualization the very change to digital of its organizational structure, transforming what is analog, sometimes electronic, to digital (digitization) and promoting the transformation of existing assembly processes, as proposed by digitalization.

Thus, as indicated by Hemerling et al. (2018), to seek the digital transformation of general assemblies, it is essential to believe in and pursue a change in culture to the digital, and that in the reality of democratic management, cooperative education for the digital must be the axis of the cooperative member, in an eminent social process.

Contrary to this digital transformation, however, is the mistaken perception that only the digitization of in-person general assemblies represents a technological

innovation capable of promoting democratic management through digital media. On the contrary, what digitization will be able to trigger is the shift to digital of the analog controls that exist today and are practiced by the constituted power groups. These controls, then, could be even more harmful to democratic management in the face of the scalability power of the digital medium.

This is because if earlier social control, as thought by Jeremy Bentham and Michel Foucault, was linked to the panoptic eye that sees everything to physically condition individuals, in the context of the informational society such physical coercion is no longer necessary. As Maurizio Lazzarato (2006) asserts, the control of technological means now allows an even more dangerous discipline, that is, the discipline of the mind through the modulation of brains, that is, by the subtle and distant creation of mental memory habits that imperceptibly condition individuals from the interests of those who hold the information flows, implying new forms of asymmetry.

This assimilation, it may be said, comes from Gilles Deleuze's initial reflections on control through modulation. For the French philosopher, with the development of initially unidirectional technologies (such as TV and its advertising media), social control would occur through the molding of forms of communication to condition individuals to certain behaviors through supervised access to knowledge that interest only those who communicate a certain perspective (Deleuze, 2013).

These controls through modulation that can be leveraged by the digitization of face-to-face assembly processes, since simply seeking to transform from analog to digital the practices and acts already legally and empirically provided for in face-to-face general assemblies, it would be naive to think that their already known forms of control could not be transported to virtualization. The danger, however, lies in the fact that these practices can no longer be carried out only within the scope of certain general assemblies or based on the interests of certain groups, but rather, and mainly, can guide the development and design of digital platforms, as a business model, which end up giving scalability to these means of control, threatening cooperative democratic management in its essence, notably now when virtual general assemblies have been widely disseminated among members in the pandemic reality.

By recognizing its dangers, the misunderstanding about digital transformation brings to the debate on democratic management in digital media, that cooperatives and their members will be able to overcome the healthy and necessary process of digitization initiated by the COVID-19 pandemic to reach the development of a cooperative digital

culture that supports the effective digital transformation that general assemblies will have to face in the coming years in the defense of democracy, a fundamental cooperative value.

6. Final considerations

Throughout this work, we sought to demonstrate that the virtualization of general assemblies, the supreme body of cooperatives, in the exact legislative wording, starting from a singular moment (the pandemic), does not necessarily represent a digital transformation or constitute innovation, because it is merely incremental and overlooks social and cultural dimensions that also need to be transformed.

The analysis of the terms digitization, digitalization, and digital transformation aimed to show how this new informational society requires a proper understanding of new concepts without simplifications or etymological applications that do not integrate the Fourth Industrial Revolution. Through the experience of cooperatives in the virtualization of their general assemblies, the study shows how the digitization of existing assembly acts cannot be considered, as it has been, digital transformation.

To not remain only in critique, the conclusion presents some key focal points for the attention of cooperative managers and the cooperatives themselves, so that the simple digitization of general assemblies does not destroy the central idea of the cooperative act, which is the effective integration between cooperatives. This model, exercised during in-person general assemblies, was harmed by digital general assemblies, as highlighted below:

a) Digitization is only a first step in the innovation process, but it is incremental in nature and cannot imply regression in the democratic process that guides cooperativism;
b) A second and necessary step is to promote a behavioral education process for cooperatives, enabling them to effectively operate in the virtual environment in the same manner as during in-person general assemblies, where the democratic model of representation and expression were actively present, versus a digital model which, most of the time, suffers from a lack of effective participation, since being connected to the assembly does not necessarily mean participation, given the control mechanisms digitally instituted by the administrators of the deliberative process;
c) Cooperatives need to be re-educated so that they can effectively integrate into the digital environment, understanding this model as a true space for democratic practice through the freedom of expression of ideas, via open and fluid debate;

d) Cooperative managers need to understand that the assembly environment is not for management or representative bodies, but for the cooperatives themselves, as the ultimate recipients of the decision-making process.

In conclusion, the digitization experienced today in the general assemblies presents itself as healthy, however, it should only be understood as a first step of digital transformation, otherwise this may lead to dangerously expanding the occurrence of merely protocol, homologation meetings, which modulate the social body and wound the cooperative democracy. Only the digital transformation will allow a virtual space to hold, at the same time, the cooperative foundations and precepts and the digital tools and mechanisms that technologically guarantee the assembly environment for the cooperative member.

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De la supuesta transformación digital al riesgo de control social: la digitization de las asambleas generales virtuales de cooperativas brasileñas

Resumen

El paradigma de la transformación tecnológica por lo digital cambió la estructura del capitalismo e impulsó una nueva perspectiva de las relaciones sociales, ahora vividas bajo la lógica de la sociedad red. Esto requiere la correcta comprensión de nuevos conceptos innovadores, pero en ocasiones todavía empañados por errores semánticos y epistemológicos que relativizan la importancia de la transformación digital y ponen en peligro la continuidad de las organizaciones. Con base en el método inductivo, estructurado en investigación bibliográfica y documental, este artículo analiza cómo la falta de comprensión de las expresiones digitization, digitalización y transformación digital en las asambleas generales de las cooperativas llevó a sus directivos a creer que la digitization de los actos de asamblea representa una completa transformación. Este error pone en riesgo la democracia participativa cooperativa por el crecimiento, a través de la modulación digital, de los controles sociales que ya se practican en muchas asambleas presenciales. La digitization que se produjo en las asambleas generales de las cooperativas brasileñas, acelerada por la pandemia de la COVID-19 y admitida en la legislación brasileña, parece positiva, pero debe entenderse solo como un primer paso de una transformación digital basada en el ejercicio de la democracia participativa como valor y hacia la integración a través del debate abierto y fluido como principio.

Palabras clave

Sociedades. Nuevas Tecnologías. Cooperativas. Asambleas Generales. Transformación Digital.

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