

Incorporating the Theory of Change in the Development of a Public Policy for Distance Higher Education in Brazil

Incorporando a Teoria da Mudança no Desenvolvimento de uma Política Pública para o Ensino Superior à Distância no Brasil

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Abstract. This study mapped the logical structure of a public policy to expand distance higher education in Brazil, based on the Theory of Change. The research analyzes the theory's three main approaches - narrative, overview and causal - and develops a Theory of Change model for the future evaluation of this public policy. The use of empirical evidence from the Reuni Digital Program serves as an in-depth case study demonstrating the application of Theory of Change in the real world and reinforces the effectiveness of this approach to find public problems during the design phase; effectively coordinate intervention activities during implementation; and evaluate the results and impacts of the program through indicators during the evaluation phase. In this way, this study confirms the potential learning in public program planning processes, where the narrative, overview and causal approaches stand out for their distinct but complementary elements.

Keywords: Public policies. Theory of change. Higher education. Distance education. Reuni Digital.

Resumo. Este estudo mapeou a estrutura lógica de uma política pública para expandir o ensino superior à distância no Brasil, com base na Teoria da Mudança. A pesquisa analisa as três principais abordagens da teoria - narrativa, visão geral e causal - e desenvolve um modelo de Teoria da Mudança para a avaliação futura dessa política pública. O uso de evidências empíricas do Programa Reuni Digital serve como um estudo de caso aprofundado que demonstra a

aplicação da Teoria da Mudança no mundo real e reforça a eficácia dessa abordagem para encontrar problemas públicos durante a fase de concepção; coordenar efetivamente as atividades de intervenção durante a implementação; e avaliar os resultados e os impactos do programa por meio de indicadores durante a fase de avaliação. Dessa forma, este estudo confirma o potencial de aprendizado nos processos de planejamento de programas públicos, no qual as abordagens narrativa, geral e causal se destacam por seus elementos distintos, mas complementares.

Palavras-chave: Políticas públicas. Teoria da mudança. Ensino superior. Educação à distância. Reuni Digital.

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1. Introduction

The use of the Theory of Change (ToC) in Public Administration has been the subject of frequent studies in program and policy management processes (Goodier *et al.*, 2018). In general terms, the ToC sets up the relationship between design and results, highlighting the underlying assumptions and causal connections between events and the conditions necessary for the success of an intervention (Gready; Robins, 2020; Mayne, 2023). However, political science studies still neglect the fundamental aspects of public policy formulation, failing to prioritize a robust understanding of the intervention, its context, and its aims (Migone *et al.*, 2024).

Goodier *et al.* (2018) defines ToC as the chain of processes, outcomes and changes of a program that seeks to improve people's quality of life. This theory supports complex interventions to incorporate the lessons learned along the path of change and improve the desired results (Gooding *et al.*, 2018; Migone *et al.*, 2024; Mitchell, 2021). In the public sector, the complexity of public policies and the role of policymakers requires the use of approaches such as the ToC in the formulation, implementation, and evaluation of policies (Rolfe, 2019).

Although researchers published on ToC in the international literature in the 1990s and 2000s (Anderson, 2005; Mason; Barnes, 2007; Weiss, 1995), studies in Brazil are more recent (Aguiar Pereira; Salles-Filho, 2022; Gimenez *et al.*, 2023). This is due to the consideration of new mechanisms and institutional innovations in the planning and evaluation strategies of Brazilian public policies (Aguiar Pereira; Salles-Filho, 2022). In addition, the pandemic scenario has posed challenges for the country, with impacts on health, education, and the economy, which continue to have effects (Gimenez *et al.*, 2023).

The literature review showed that research on ToC focuses more on evaluation models than on program formulation (Gimenez *et al.*, 2023; Reinholz; Andrews, 2020). Given this gap, our research focuses on the formulation and implementation of a public policy for higher education

in Brazil. From this perspective, what are the lessons of applying the ToC in the planning phase? Thus, the aim of this research is to map the logical structure incorporated into the formulation and implementation processes of the Program for the Expansion of Distance Education in Federal Universities - Reuni Digital, based on ToC approaches. We also propose a causal model of the ToC to evaluate the program in the future. Using evidence from the Reuni Digital in Brazil, the study contributed to confirming the learning potential of the ToC in the planning phase of programs.

Brazil's Ministry of Education (MEC) leads the Reuni Digital program, which aims to increase access and encourage students to stay in higher education through distance learning. We analyzed program documents available on the Federal Government's official website. This qualitative study, of a descriptive-explanatory nature, uses documentary analysis based on the models and assumptions of the ToC to map the logic underlying the public policy of Reuni Digital. The Reuni Digital programme serves as an in-depth case study, demonstrating the real-world application of ToC principles.

The overall structure of the paper begins with this introduction, followed by a chapter on theoretical foundations, focusing on the ToC and its assumptions. Next, we contextualize the brief description of the Reuni Digital Program. The methods chapter outlines the research approach. The results demonstrate the construction of the ToC within the context of Reuni Digital. Finally, we present our observations in the lessons learned section before moving on to the concluding remarks.

2. Definition of ToC

The original framework conceived of ToC as a collective process of political negotiations and conflict resolution, outlined in a set of stages that culminate in a theory of a project (Program Theory) (Weiss, 1995). According to Anderson (2005), in its most basic format, the ToC explains how a series of related activities produce long-term results, and the most robust ToC should articulate the assumptions about the process by which change should occur and specify how initial and intermediate results are related to long-term change.

Mayne (2023) understands ToC as the method of intervention that seeks to achieve desired results by suggesting causal relationships between inputs, impacts, and underlying assumptions. Chapman *et al.* (2023) interpret it as a strategic theoretical tool for the development and evaluation of projects, which arose from the limitations perceived in the analysis of frameworks and logic models. However, Mintz and Roberts (2023) point out that a ToC will have a specific logic model to plan and describe how resources and activities will achieve goals and outcomes.

These studies corroborate the interpretation of ToC as a theory that describes a program or project's processes, articulating the connection between formulation, results, and impacts (Anderson, 2005; Chapman *et al.*, 2023; Mason; Barnes, 2007; Mayne, 2023).

In this study, we consider that the central goal of the ToC is to guide the processes of design and implementation, thereby increasing the effectiveness of the desired change (Mayne, 2023; Montano *et al.*, 2023). This means that the ToC is committed to examining a problem and creating a solution by determining how change should occur in relation to processes, resources, and outcomes (Mitchell, 2021).

The ToC also provides value in the evaluation process by suggesting a structured model that encompasses both process analysis and assessment of expected and achieved outcomes (Gugerty, 2023). Through ToC, evaluators gain insights into how and why an intervention has a specific effect and which "elements" of the intervention have the greatest impact on outcomes (Gugerty, 2023). Thus, ToC can incorporate learning into the program, considering the essential elements of public policy (Chapman *et al.*, 2023; Migone *et al.*, 2024).

3. ToC Assumptions

The ToC literature highlights that there is no single method for its implementation, but there is consensus on the basic elements, called the assumptions of the ToC (Vogel, 2012). The ToC combines assumptions about the process by which change will occur and specifies ways to produce and record results as they occur (Gready; Robins, 2020). Assumptions are often causal and show why and under what conditions different activities work during the execution of a project (Mayne, 2015).

There are at least three distinct ways of formulating the assumptions of a ToC: narrative, overview and causal (Goodier *et al.*, 2018; Mayne, 2015). The narrative approach outlines a clear methodology for conducting the intervention, considering the projected objectives of the intervention initiatives (Mayne, 2015, 2023; Weiss, 1995). A narrative ToC describes the relationship between the intention, implementation, and outcomes of an intervention, usually presented in diagrams that illustrate the connections (Jones, 2023).

The overall ToC approach seeks to capture a panoramic view of the intervention without going into detail and to outline the main pathways to achieving the desired impact (Koleros; Mayne, 2019; Mayne, 2015). Visual representations of the overall approach can present key concepts and set up logical and relational hierarchies to inspire work teams (Vogel, 2012).

Causal models arise from assumptions about which events and conditions are necessary to achieve a specific outcome and specify how activities will produce the results (Mayne, 2023), seeking to make causality explicit (Koleros; Mayne, 2019; Rolfe, 2019). The causal mapping expresses the path through which an intervention should achieve its impact (Mayne, 2015).

The starting point for developing any ToC model is identifying long-term outcomes (Rolfe, 2019). This exercise makes the underlying logic of a project explicit, supporting the planning and implementation of activities that should produce the desired outcomes (Reinholz; Andrews,

2020). The assumptions, therefore, highlight the hypothetical cause-and-effect links between the activities and the evidence that validates the achieved outcome (Vogel, 2012).

The development and application of ToC models require describing how changes may occur in the context of the intervention, through the causal pathway, and the efforts needed to achieve the desired changes (Koleros; Mayne, 2019). For this, it is essential to emphasize the use of ToC at each phase of the program, whether for formulation, implementation, monitoring, or evaluation purposes (Chapman *et al.*, 2023; Douthwaite *et al.*, 2020).

During the formulation phase of programs and policies, ToC models help predict how change should occur (Douthwaite *et al.*, 2020). In the monitoring stage, the ToC model aims to set up a strategic direction for the program (Breuer *et al.*, 2022). Finally, in the evaluation stage, the ToC allows the evaluator to understand the clear links between a specific intervention and its results (Douthwaite *et al.*, 2020).

4. Reuni Digital Program

The expansion of public higher education in Brazil is a long-standing and legitimate demand, as access has historically been limited to the ruling classes due to its predominantly private structure. Although initial efforts began in 2003 under President Luiz Inácio Lula da Silva with the interiorization of Federal Universities (FUs), it was only in 2007, during his second term, that higher education expansion became a central government agenda. This initiative was part of the Education Development Plan, whose strategic goal was expansion. Decree No. 6.096 (2007) created the Program to Support Restructuring and Expansion Plans for Federal Universities (Reuni), aiming to double enrollment in face-to-face undergraduate programs within ten years, starting in 2008. The target was an additional 680,000 students in public FUs (Brasil, 2007).

Between 2008 and 2018, enrollment in the federal network grew from 643,101 to 1,123,649 students, reaching approximately 83% of the goal (INEP, 2009; INEP, 2020). Despite this progress, access remains limited—by 2014, 75% of higher education enrollments were in private institutions, while only 15% were in federal ones (INEP, 2017). This imbalance led to the approval of the National Education Plan (PNE) in 2014, aimed at reducing disparities, improving education quality, and promoting scientific, cultural, and technological development. The plan set ten-year targets (2014–2024), including Goal 12, which seeks to raise the gross enrollment rate (GER) in higher education to 50% and the net enrollment rate (NER) to 33% for the 18–24 age group, ensuring quality.

By 2020, the PNE Monitoring Panel showed a GER of 38.7% and a NER of 26.6% (INEP, 2024). However, the Covid-19 pandemic disrupted progress, prompting the government to invest in remote education. Despite low DE participation in federal universities (5.8% in 2019), the MEC saw an opportunity to expand digital learning (INEP, 2021). In response, the Reuni Digital

Program was launched in May 2020 to broaden access and support student retention via distance education (Brasil, 2024).

5. Materials and Methods

This descriptive-explanatory qualitative study uses documentary research to map the logical structure of the ToC incorporated in the Reuni Digital Program's formulation and implementation. This approach, according to Perdigão *et al.* (2012), aims to find the factors that find or contribute to the occurrence of a behavior or phenomenon, to set up causal relationships, or to expand knowledge about a given reality.

We surveyed the documents made available by the MEC to collect data on Reuni Digital. Table 1 shows a summary of the documents analyzed. The full documents are available on the MEC portal (Brasil, 2024). It is important to note that all these documents are publicly accessible at any time. Reuni Digital, according to its formulators, is a program under development that aims to increase the number of enrolments in Brazilian public higher education (MEC, 2024).

Table 1 - Reuni Digital documentation.

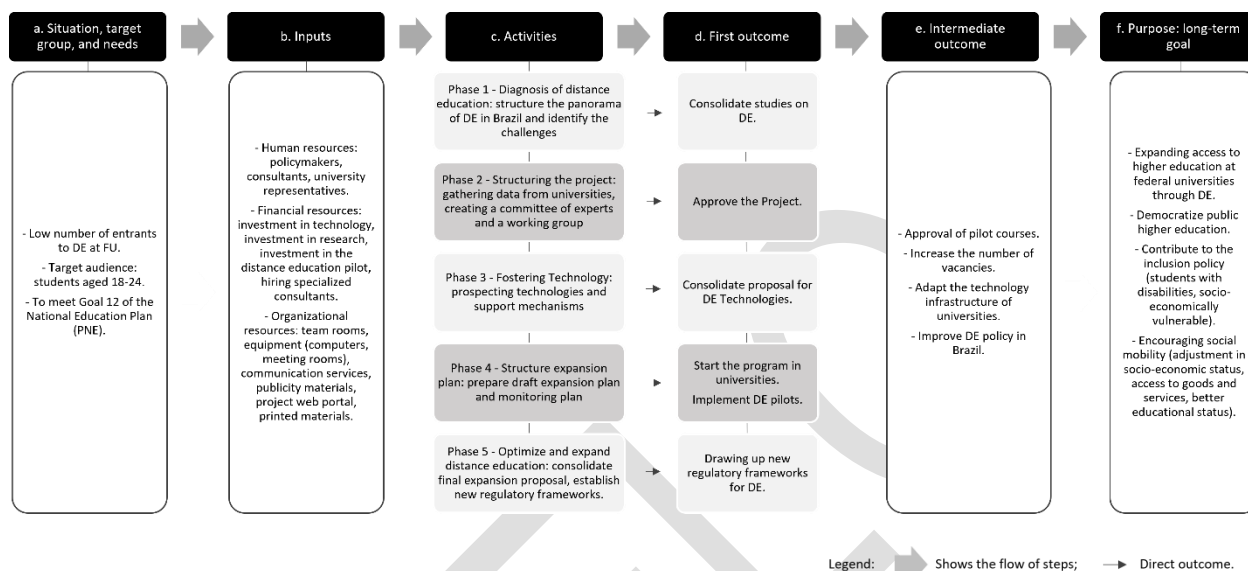
Document	Description
International Benchmarking	It looks to learn about the policies, strategies, and distance education (DE) tools that have been successful in international countries, to contribute to the formulation of the Brazilian Expansion Plan.
Overview of DE in Brazil	It aims to document the situation of DE in Brazil recently, considering the performance of the FU in this teaching modality.
Diagnosis and challenges of DE in Brazil	It looks to find the challenges that the government and FU must face to make the expansion of DE in the public network practical.
Expansion Plan	It sets up general guidelines, goals and management, technological and pedagogical goals for the government and FU.
Monitoring the Expansion Plan	Provides mechanisms to check and evaluate the results of the program, based on indicators for the goals of Reuni Digital.
Proceedings of the Pilot Courses Workshop	It documents the event held on July 14 and 15, 2022 to present and merge the program's pilot courses.
MEC's Strategic Planning 2020-2023	It formalizes Reuni Digital as a strategic program, describing it and relating it to performance indicators (Brasil, 2020).
Program regulations	We analyzed a set of twelve rules within the framework of Reuni Digital. The rules relate to the establishment of the program, the creation of the Strategic Orientation Committee and Working Group, the definition of competencies and the assignment of tasks.

Note: Brasil (2024).

To construct the results, we considered two main stages: a) analysis of the public policy design; and b) elaboration of the program's ToC. While analyzing the design of Reuni Digital, we drew up the program's logical framework according to Mitchell (2021), considering the program's context, target group, resources, activities and expected results. The Reuni Digital logic model

(Figure 1), drawn up in diagram form as suggested by Savaya and Waysman (2005), aims to stand for the overall structure of the program and the path to achieving the desired results.

Figure 1 - Reuni Digital Logic Model.



Note: prepared by the authors.

The ToC recommends the development of logic models to support the design of complex programs, defining feasible and testable pathways between interventions, outcomes, and contexts, and establishing the theories that program participants believe will lead to change (Rolfe, 2019). In this context, this article proposes developing the logic model for Reuni Digital to support the construction of narrative, overview, and causal approaches, ensuring alignment between the project's objectives and the underlying assumptions of the approaches analyzed.

The next stage considered the theoretical framework covered in the reference, but especially the organization of the ToC's assumption models - narrative, overview and causal. To stand for the narrative approach of the ToC, the study was based on the assumptions presented by Weiss (1995), confirmed by Jones (2023). The overview approach is based on the assumptions of Vogel (2012), confirmed by Goodier *et al.* (2018); Koleros and Mayne (2019); and Mayne (2015). The design of the causal model considered the work of Mayne (2023) and Rolfe (2019).

6. ToC assumptions applied to the Reuni Digital Program

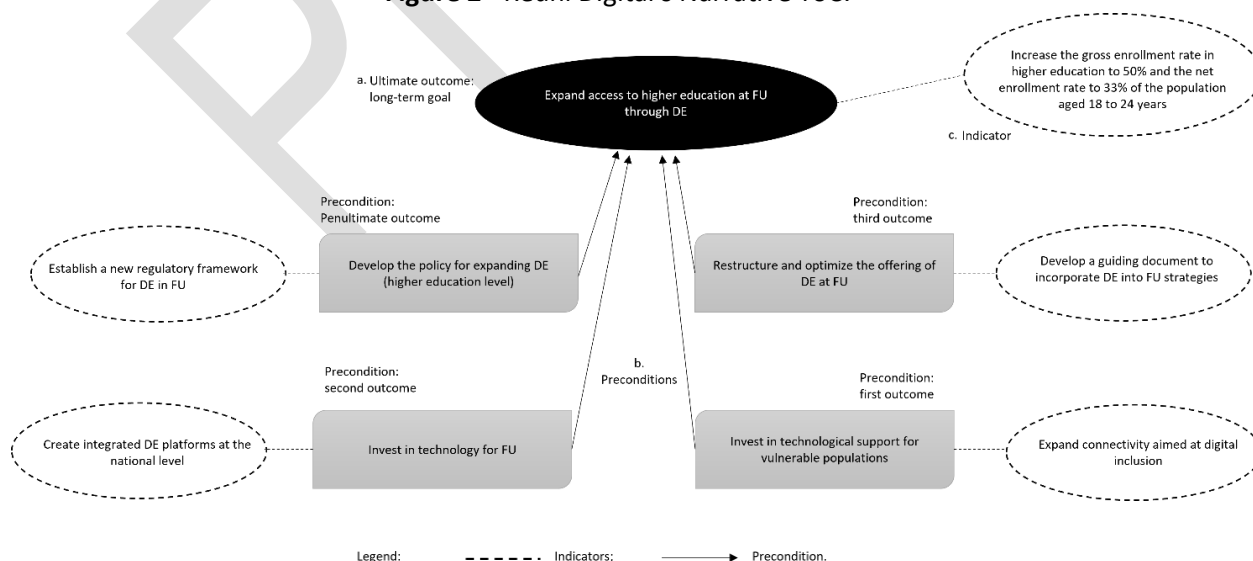
The narrative assumptions of the ToC structure the description of the intervention to provide a public explanation of the project. This theory stands for the conceptual model of the implementation of a program to achieve the intended result (Goodier *et al.*, 2018; Mayne, 2015). The literature assumes three assumptions for the realization of the narrative ToC (Table 2).

Table 2 - ToC Narrative Assumptions.

Assumption 1: Retrospective Mapping	Assumption 2: Definition of Indicators	Assumption 3: Impact Analysis
The group needs to organize ideas by assumptions, from end goals to initial activities, i.e., work backwards to describe how they expect to achieve these results. Ultimate Outcome: Long-Term Goal → Penultimate Outcome → Intermediate Outcome → First Outcome.	Present at least one indicator for each phase of the ToC. These indicators should support the monitoring and evaluation of the intervention.	Reviewing data on inputs, activities, outputs, and outcomes to assess impact, through a collaborative process with the program's stakeholders.

Note: adapted from Anderson (2005), Jones (2023), Reinholz and Andrews (2020), and Weiss (1995).

Figure 2 stands for the backward tracing of the chain of influence from the ultimate outcome [a], which is the long-term goal of Reuni Digital, to the required results, which are the preconditions [b], addressing the first assumption. The narrative approach uses the desired outcomes as a guide for the planning, implementation, and later evaluation of the program (Reinholz; Andrews, 2020). Since the program aims to expand access to public higher education, the policymakers report the following intermediate results: 1) a regulatory policy; 2) a document guiding the desired change; 3) investment in technology for institutions; and 4) investment in support for students.

Figure 2 - Reuni Digital's Narrative ToC.


Note: prepared by the authors.

In the narrative approach, the evidence stands for indicators [c] in each precondition, i.e., for each intermediate result. The proposition of the indicators suggests the fulfillment of the second premise. Therefore, following the intervention, it is essential to document, measure, and utilize these indicators in evaluation processes to fulfill the third assumption (Rolfe, 2019). It is crucial to evaluate each intermediate outcome to understand the specific effect on the ultimate outcome of the program (Gugerty, 2023). At this point, policymakers should mobilize stakeholders to discuss and incorporate learning into the program during the evaluation process (Chapman *et al.*, 2023; Migone *et al.*, 2024). Considering the learning, the formal participants of the proposal should change the narrative storyline of a program, but it is essential to keep the first records of the intervention for future impact analysis.

The assumptions of the overview ToC describe the chain of influences, highlighting connections and outcomes at a general or more detailed level than the narrative approach (Goodier *et al.*, 2018). In this approach, those responsible for the intervention can be more critical about how effective the relationship between the assumptions is in bringing about change, culminating in a coherent description of the entire program (Anderson, 2005). But it is crucial to keep the focus on the overall explanation of the intervention (Mayne, 2015). The literature assumes five assumptions for the implementation of the overview ToC (Table 3).

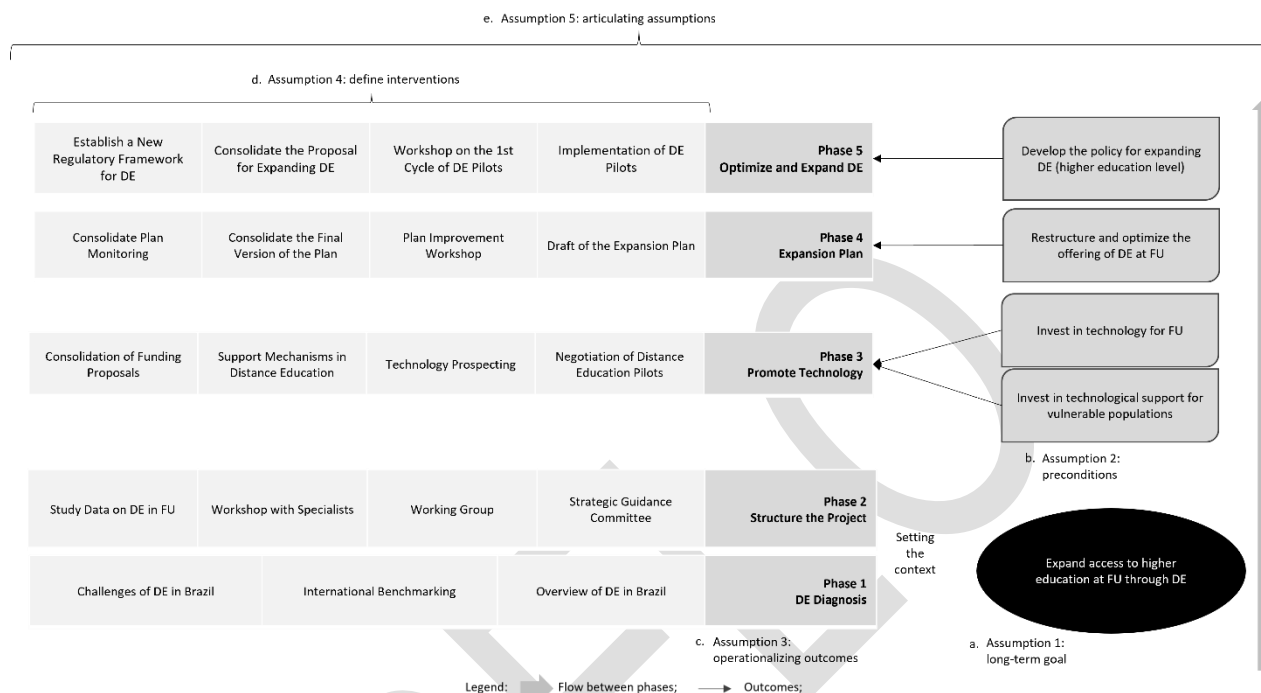
Table 3 - ToC Overview Assumptions.

Assumption 1: Find the Long-Term Result	Assumption 2: Developing a Change Path	Assumption 3: Operationalization of Results	Assumption 4: Define Interventions	Assumption 5: Articulate Assumptions
It is essential to ensure stakeholder understanding, starting by creating an explicit definition of the long-term result they want to achieve through the program's actions.	Finding and classifying all the preconditions related to the outcome of interest into a change path that moves linearly and chronologically towards the long-term goal.	There must be one or more pieces of evidence for each precondition throughout the change process, confirming the achievement of the aim. The evidence shows and documents the progress and success of the program.	This means thinking about the program's activities and actions to achieve the results on the map. Use this time to think about strategies to achieve the long-term goal.	Try to outline specific assumptions of a change process. For each assumption, consider why each precondition is necessary to achieve the intermediate results; and why the set of preconditions is sufficient to produce the long-term result.

Note: adapted from Anderson (2005), and Mayne (2015).

Figure 3 depicts Reuni Digital's overall ToC approach. We will discuss each assumption individually to clarify the proposed diagram.

Figure 3 - Reuni Digital's Overview ToC.



Note: prepared by the authors.

Assumption 1 - Finding the long-term goal: The Brazilian federal government set up the long-term goal of Reuni Digital in 2014, through the PNE - Law No. 13.005 (2014) - which defined the guidelines that should guide Brazilian education from 2014 to 2024. This law sets up Goal 12 of the PNE for higher education, the aim of which is to increase access to free, quality higher education. The Coronavirus pandemic, which began in 2020, further propelled discussions about distance education in Brazil, focusing on increasing access to higher education through Information and Communication Technologies. The legal landscape of education and local conditions in Brazil led the government to the long-term goal of the program.

Assumption 2 - Developing the path of change (preconditions): The aim of this stage is to find the preconditions that must be related to the desired result. In the context of the Reuni Digital program, these preconditions progress linearly and chronologically towards the goal. Based on the studies conducted (Phase 1), the expansion of access to higher education through distance learning must meet the requirements of investment in technology and technological support, both for the FU and for the students. In addition, the proposal also provides for the drawing up of a plan of guidelines to guide the FU on the challenges they face and the responsibilities of each body - government and FU - in terms of implementation, checking indicators and achieving

the results expected by the Program. It is also essential to draw up a new set of rules showing the standards for the implementation of Reuni Digital by the FU.

Assumption 3 - Operationalizing outcomes: Reuni Digital describes the implementation process in five phases. The first phase consists of elaborating the context of the problem, recognizing the current situation and challenges of DE in Brazil, and finding successful international policies in other countries. The second phase involves forming the work teams and approving the project that will build the Program. The third phase aims to understand the investment in technology needed to achieve the desired goal. During this phase, discussions began about conducting a pilot project for Reuni Digital. In the fourth phase, the members of the WG drew up and presented the Expansion Plan and the Monitoring Plan, with the aim of guiding the implementation of the program in the FU. The last phase (still in progress) looks to set up the pilot distance learning course cycles. The policymakers have defined three cycles of pilot courses (2022, 2023 and 2024) to evaluate the theory of the program before completing the definitive version of the regulatory framework, scheduled for 2024.

Assumption 4 - Define interventions: Interventions stand for specific program activities that are essential to achieving the long-term goal. In the context of Reuni Digital, phase 1 corresponds to a diagnostic stage and phases 2 and 3 outline the project strategy. The working group and committee of experts structured the program and conducted technological prospecting, as well as negotiating with the interested parties, especially the FU, to increase the interest of the academic community. In phase 4, the MEC validates the program's expansion and monitoring plans at government level. In phase 5, the FU implements the Reuni Digital pilot, resulting in the opening of new vacancies for distance learning courses. This mapping exercise used in the overview approach is beneficial for improving understanding of the change process. This is possible through the analysis of evidence resulting from the program's implementation phase.

Assumption 5 - Articulating assumptions: The last assumption adopts the critical analysis of the interaction between the specific assumptions of a change process. This implies finding meaning in the proposed map of change. When analyzing Reuni Digital, the following understanding of the overview approach can be inferred: 1) in order to expand access to distance higher education in the FU, it is necessary to understand the context; 2) in order to understand the context, it is necessary to carry out exploratory studies; 3) the exploratory studies provide input for drawing up the project; 4) the project establishes working groups to coordinate the action; 5) the preconditions for achieving the long-term goal are defined; and, 6) fulfilling the preconditions leads to expanding access to public higher education through DE. It is worth remembering that it is advisable to confirm the change map with the stakeholders before going ahead with the interventions.

ToC's causal assumptions explain the intervention's contribution to the desired result by identifying the conditions or activities that lead to a cause's effect (Mayne, 2015, 2023). This

means that the activities of the intervention are also a cause that contributes to the results, with the ToC being a causal-contributive intervention model. The literature assumes five assumptions for the implementation of the causal ToC (Table 4).

Table 4 - ToC Causal Assumptions.

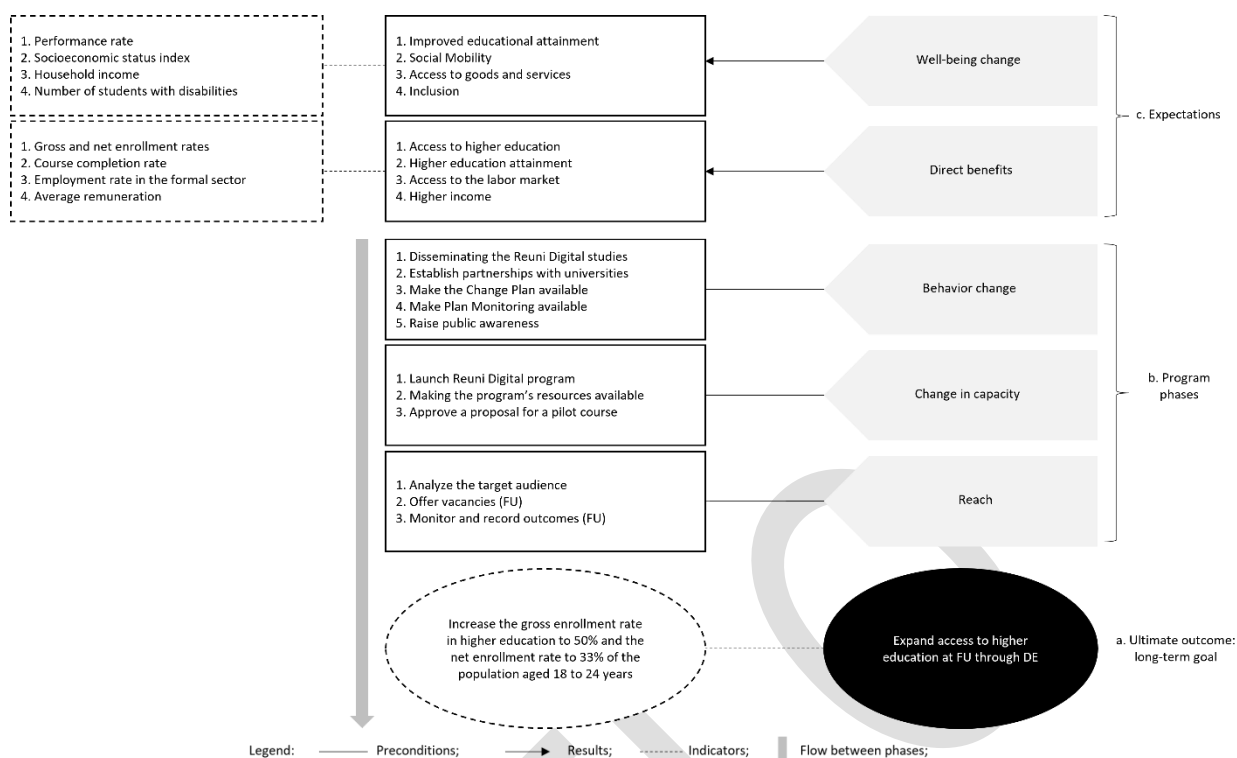
Assumption 1: Reach	Assumption 2: Capacity Change	Assumption 3: Behavior Change	Assumption 4: Direct Benefits:	Assumption 5: Well-Being Change
It is necessary to define the way in which the presentation of the results reaches the target group and to guarantee results that are acceptable to the defined target group.	These are the events that need to occur and the conditions that need to adjust for the results that reach the target populations to result in changes in their knowledge, attitudes, skills, and opportunities.	These are the events and conditions necessary for changes in the roles of the target groups to result in real changes in their practices.	Improvements in the situation of individual beneficiaries. For example, increased income and greater use of health services. The expectation of policymakers is an essential part of this assumption.	These are the long-term cumulative improvements in the general well-being of individual beneficiaries. For example, poverty reduction and food security. The expectations of policymakers are an essential part of this assumption.

Note: adapted from Gooding *et al.* (2018), and Mayne (2015, 2023).

ToC's causal approach articulates the process of change and describes the sequence of events that connect intervention activities to long-term outcomes and their influence on the process. This perspective usually illustrates the course of the impact on a map diagram (Gooding *et al.*, 2018). Once used to explain the sequence of results that lead to change and the desired impacts, the causal approach incorporates the expectations of the agents of the interventions as an essential part of the impact pathway.

In this study, we developed a hypothetical version (Figure 4) of the causal approach for Reuni Digital since it is too early to assess the program's impacts. The program designers limited the evaluation and monitoring documents for Reuni Digital to evaluations of processes and results, so it does not incorporate impact evaluation indicators. In addition, it is important to note that the Program is still in the implementation phase of the distance learning pilots at the FU, which makes it impossible to conduct a realistic impact analysis currently.

Figure 4 - Causal ToC proposal for Reuni Digital.



Note: prepared by the authors.

The causal model assumes the existence of the program theory. If this theory does not exist, it is necessary to create one based on the underlying assumptions. The underlying assumptions are more abstract, as an evaluator develops them further. For Reuni Digital, the proposed causal model develops from the analysis of the program's logic model, as well as the narrative and overall approaches of the ToC. We will discuss each assumption individually to clarify the proposed diagram.

Assumption 1 - Reach: The first assumption stems from three preconditions: knowing the target audience, offering vacancies, and monitoring the results. In practice, the PNE defines the target public, as it seeks to increase the enrollment rate in higher education for students aged 18 to 24. It is the UFs that offer places to students, through specific access programs or the National High School Exam (ENEM), the latter being the most widely used. Since the FU handle offering places, they also could check and record the results of entrants to online courses. Analyzing this data is crucial to understanding the Program's developments.

Assumption 2 - Change in capacity: The planning and implementation of the second assumption, within the scope of Reuni Digital, suggests that universities should improve their technological infrastructure and promote the implementation of distance learning and the creation of virtual learning environments. In addition, it is necessary to train teachers and develop accessible teaching materials in digital formats. The Program also requires the adoption of new online assessment methods, among other challenges (Brasil, 2022b). To make this possible, the MEC

must launch the Reuni Digital program as a precondition. Once the program starts, higher education institutions will be able to offer their virtual courses upon approval by the MEC (precondition). The approval of the Distance Learning Pilot Project is essential to assess the feasibility of expansion and the quality of teaching, and to propose means of improvement before the MEC makes its final public policy proposal.

Assumption 3 - Behavior change: Behavior change is the actual practical transformation that occurs in organizations or individuals when stimulated by the opportunities of an intervention. In Reuni Digital, the MEC fulfills this assumption by overseeing the incentive for change, either through FU's voluntary participation in the program or by informing beneficiaries of the opportunity and its benefits. The proposed causal model suggests concrete interventions that can lead to behavioral change. These interventions function as causal links to restructure and improve the provision of DE in Brazil. These three assumptions outline the causal path of the ToC in the Program's phases.

Assumption 4 - Direct benefits: Direct benefits are the expectations idealized in the formulation of the program theory that, through the program's activities, will lead to the achievement of individual results. It is important to note that a causal evaluation needs to show how the intervention contributed to the expected results, since there may be external factors that also contributed to these results. The causal approach usually includes quantitative indicators to measure the results achieved. For example, the gross enrollment rate (admissions) is the indicator most often used in Brazil to infer assessments of "access to higher education". The evaluators must calculate the ratio between the total number of people enrolled in distance learning higher education courses and the total population aged 18 to 24 - the age group considered as a reference for calculating the coverage rates of undergraduate courses. The evaluators can use this same logic to analyze the other proposed indicators, considering the specific data of the courses and the follow-up of graduates.

Assumption 5 - Well-being change: Improvements in well-being correspond to improvements in the long-term living conditions (such as health, education, access to material goods, among others) of the individuals who graduated from the program. In considering education as a factor of social mobility, the expectations of policymakers in Reuni Digital assume of an improvement in graduates' incomes, better educational conditions, access to goods and services, and long-term social advancement and inclusion. To illustrate this, the socio-economic level index helps to find inequalities by considering three main components: family income, educational level, and occupation. These components contribute to understanding the possession of and access to goods and services by individuals before and after the higher education course offered by the Program.

6.1. Lessons Learned

The mapping of the ToC to the planning of the Reuni Digital Program in Brazil confirms and highlights the importance of applying this theory in the formulation and implementation stages of programs. The ToC has also appeared as a fundamental method for ensuring stakeholders' understanding of the problem and clearly articulating the desired aims. The research evidence highlights the significance of understanding the context and the target group to develop effective approaches to solving problems and reaching beneficiaries. They also reveal the potential for learning in designing, implementing, and evaluating programs, where the narrative, overview and causal approaches stand out for their distinct and, at the same time, complementary elements. In terms of analysis, the narrative approach focuses on presenting the long-term aim and the preconditions that support its achievement. In this approach, qualitative or quantitative indicators correspond to evidence for monitoring and evaluation. The narrative ToC is flexible and often applied by policymakers to recognize the problem that requires intervention, i.e., at the programme design stage. The overview approach presupposes a greater level of criticality and detail on the part of the actors involved, to understand the coherence between the phases of the change path. This approach, in the implementation phase of programs, helps to link activities to the long-term goal. In addition, it should focus on setting up strategies to achieve the desired results. The causal approach presupposes the identification of the influence of activities and results in the achievement of the long-term goal. The ToC literature therefore recommends this approach for program evaluation phases, including impact evaluation. The causal approach has two central perspectives: the first revealing the phases of the program and the second defining the direct benefits and the change in well-being, assuming a direct relationship between them. Finally, the complementary relationship between the approaches occurs in the evaluators' analysis of the program's underlying assumptions, as they look to materialize the links between inputs (narrative), activities (generic), and results (overview) in a ToC.

7. Concluding Remarks

The aim of this research was to map the logical structure incorporated into the planning of a public program for the expansion of distance higher education in Brazil, based on ToC approaches. The study contributes to debates on the relevance of using the ToC in the formulation and implementation phases of public policies and complex programs. In addition, the results are significant for stimulating reflection and the design of new public programs based on the ToC. Thus, the study considers having achieved its aim by mapping the practical application of the ToC in the public policy experience of Reuni Digital and by suggesting a proposal for a causal analysis of the ToC for future evaluation of the program. It also encourages research into a ToC, including in Brazil, while supporting the theoretical models and assumptions suggested by the literature on the ToC. Methodologically, the article stands out for conducting a

descriptive-explanatory analysis of the three approaches to the ToC, considering the formulation, implementation, and evaluation of a complex public policy in Brazil. This study faces the limitation of relying exclusively on the analysis of documents made available by the body responsible for implementing Reuni Digital, which may restrict the scope of the research. In future studies, it would be beneficial to explore other approaches to describing the same program or to adopt the models and assumptions discussed in this study to conduct analyses on different public policies or complex programs. We further recommend that the Brazilian federal government utilize the causal model developed in this research to assess the program following the completion of the Reuni Digital pilot courses, scheduled for 2025.

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