

**THE LOGIC OF SERVICES IN THE PNAE (NATIONAL SCHOOL FEEDING PROGRAM): CO-CREATION OF VALUE IN PUBLIC MANAGEMENT****A LÓGICA DE SERVIÇOS NO PNAE (PROGRAMA NACIONAL DE ALIMENTAÇÃO ESCOLAR): CO-CRIAÇÃO DE VALOR NA GESTÃO PÚBLICA****LA LÓGICA DE LOS SERVICIOS EN EL PNAE (PROGRAMA NACIONAL DE ALIMENTACIÓN ESCOLAR): CO-CREACIÓN DE VALOR EN LA GESTIÓN PÚBLICA**

10.56238/revgeov16n5-085

**Eliane Alves da Silva<sup>1</sup>, Eugenio Avila Pedrozo (In memoriam)<sup>2</sup>, Tania Nunes da Silva<sup>3</sup>****ABSTRACT**

The Brazilian National School Feeding Program (Programa Nacional de Alimentação Escolar – PNAE) is one of the oldest social policies in Brazil, being guided by standards of sovereignty, food, and nutrition security, in addition to promoting local agricultural development. The decisions regarding the program, which co-create value for the population, are influenced by demographic, cultural, agricultural, and climatic characteristics. Therefore, the objective of this article was to assess the different forms of co-creation of value in the execution of the PNAE in the state of Rio Grande do Sul, Brazil in the three forms of resource management: centralized, decentralized, and outsourced. To achieve the proposed objective, a qualitative-descriptive research method with abductive logic was chosen, using a multiple-case study and semi-structured interviews as a strategy. It was found that the program is a service ecosystem, according to S-D Logic, in which institutions, alongside social stakeholders, co-create value in the visited municipalities.

**Keywords:** School Feeding. Value Co-Creation. Logic of Services. Public Policy.

**RESUMO**

O Programa Nacional de Alimentação Escolar (PNAE) é uma das mais antigas políticas sociais do Brasil, que se orienta por normas da soberania, segurança alimentar e nutricional, além de preconizar o desenvolvimento agrícola local. As decisões sobre o programa que cocriam valor para a população são influenciadas por características demográficas, culturais, agrícolas e climáticas. Portanto o objetivo deste artigo foi analisar as diferentes formas de cocriação de valor na execução do PNAE no estado do Rio Grande do Sul nas três formas de gestão dos recursos, centralizada, descentralizada e terceirizada. Para atingir o objetivo proposto optou-se por uma pesquisa de natureza qualitativa-descritiva e lógica abduativa, utilizando-se como estratégia um estudo de casos múltiplos e entrevistas semiestruturadas.

<sup>1</sup> Dr. in Administration. Universidade do Estado de Mato Grosso (UNEMAT). Mato Grosso, Brazil. E-mail: eliane.alves.silva@unemat.br Orcid: 0000-0002-6958-1101

<sup>2</sup> Dr. in Industrial Engineering. Institut National Polytechnique de Lorraine. Universidade Federal do Rio Grande do Sul (UFRGS). Rio Grande do Sul, Brazil. Orcid: 0000-0002-4751-707X

<sup>3</sup> Dr. in Sociology. Universidade Federal do Rio Grande do Sul (UFRGS). Rio Grande do Sul, Brazil. Universidade Federal da Paraíba (UFPB). Paraíba, Brazil. E-mail: tnsilva@ea.ufrgs.br Orcid: 0000-0002-1964-1313



Foi constatado que o programa é um ecossistema de serviço, segundo a Lógica S-D, em que as instituições juntamente com os atores sociais cocriam valor nos municípios visitados.

**Palavras-chave:** Alimentação Escolar. Cocriação de Valor. Lógica de Serviços. Política Pública.

## RESUMEN

El Programa Nacional de Alimentación Escolar (PNAE) es una de las políticas sociales más antiguas de Brasil, que se guía por normas de soberanía, seguridad alimentaria y nutricional, además de promover el desarrollo agrícola local. Las decisiones de programas que cocrean valor para la población están influenciadas por características demográficas, culturales, agrícolas y climáticas. Por lo tanto, el objetivo de este artículo fue analizar las diferentes formas de concreción de valor en la ejecución del PNAE en el estado de Rio Grande do Sul en las tres formas de gestión de recursos, centralizada, descentralizada y tercerizada. Para lograr el objetivo propuesto se optó por una investigación cualitativa-descriptiva con lógica abductiva, utilizando como estrategia el estudio de casos múltiples y entrevistas semiestructuradas. Se constató que el programa es un ecosistema de servicios, según Lógica S-D, en el que las instituciones junto a los actores sociales cocrean valor en los municipios visitados.

**Palabras clave:** Alimentación Escolar. Concreción de Valor. Lógica del Servicio. Política Pública.



## 1 INTRODUCTION

The school meal program is one of the oldest social policies in Brazil, dating back from the 1940s and undergoing several reformulations until being renamed, in 1979, the Programa Nacional de Alimentação Escolar (National School Feeding Program – PNAE). This program plays a crucial role, as childhood nutrition influences child growth, physical and cognitive development, school, and nutritional performance, as well as reducing school dropout rates.

The PNAE, however, is not something easy to manage, being a public policy that dialogues with the precepts of intersectorality and interinstitutionality – in a federal, state, and municipal multilevel ecosystem – which are inherent in the success of policies guided by the norms of sovereignty and food and nutritional security (*soberania e segurança alimentar e nutricional – SSAN*) (MARQUES; TRICHES, 2022). During the 1990s, the program underwent major changes. The process of decentralizing the management of its resources began, as a single body was responsible for managing school meals in all municipalities. This evolved with the creation of the National Education Development Fund (Fundo Nacional de Desenvolvimento da Educação – FNDE) in 1997, which allowed financial transfers to be sent directly to municipalities.

Interaction with farmers in the PNAE began with Act 11,947, ratified on June 16, 2009, which determined that at least 30% of food for school meals should come from family farming. The imposition of this Act enabled the creation of a bridge between psychocognitive logic and sustainable local development with an emphasis on family farming. A space was created for the local productive system, in which a municipality's farmers could sell their products in school meals, guaranteeing access to healthy food and enabling fair trade and sustainable rural development (TRICHES; SCHNEIDER, 2010; TRICHES *et al.*, 2018; MARQUES; TRICHES, 2022).

Each municipality is responsible for deciding on the type of management of the resources to be adopted. Management became centralized starting in the 1980s, with financial resources intended for the PNAE being transferred to the Secretariat of Education, so that it could buy and distribute food in schools. In the late 1980s and early 1990s, the possibility of decentralized management was expanded, wherein resources are transferred directly to schools and directors, who are responsible for purchasing food. During the 1990s, there was also an advance in the outsourcing process in the public sector, via the Master Plan of the Minister of Public Administration and State Reform, Bresser Pereira. Thus, the



possibility arose for municipalities to choose to purchase meals through outsourcing services, whose FNDE funds can be used solely for the purchase of foodstuffs.

It should be noted that administrative practices within the scope of public power must be committed to citizen-centered development. The type of resource management present in the PNAE consists of a managerial construction that is based on institutional values and relationships between stakeholders. Practices are built through routine processes that integrate a value co-creation proposal into the school food service for students and their families, public managers, farmers, and the community.

Therefore, demographic, cultural, agricultural and climate characteristics apply to decision-making in PNAE. Brazil has 26 states distributed in 5 regions (South, Southeast, North, Northeast, and Center-West), which are subject to six biomes (Amazon, Caatinga, Cerrado, Pantanal, Atlantic Forest, and Pampa) and six types of climates (equatorial, semi-arid, tropical, highland tropical, Atlantic tropical, and subtropical). The population of 214.3 million is concentrated in the Southeast, Northeast and South regions, originating from three main ethnic groups: indigenous, African, and European (IBGE, 2021).

The state of Rio Grande do Sul has a subtropical climate, and two biomes – Pampa and Atlantic Forest. Its agricultural production is diversified and includes crops such as soy, corn, wheat, rice, beans, tobacco, grapes, apples, citrus, and olive trees. This state has 11,088,065 inhabitants (IBGE, 2021), of which 2.4 million are students (TROIAN *et al.*, 2020). The state is composed of 497 municipalities divided into seven mesoregions, Northeast, Northwest, Southeast, Southwest, Western Center, Eastern Center, and Metropolitan Region (IBGE, 2021). It is divided into four cultural regions. Cultural region 1 is individualized by the presence of indigenous, Portuguese, Spanish, African and Azorean ethnicities; cultural region 2 is formed by the presence of Germans; cultural region 3 is marked by the Italian ethnicity; and cultural region 4 features mixed ethnicities (NETO; BEZZI, 2008).

Each municipality establishes actions for the integration of resources in accordance with the purpose established by its managers, which raises the question “Can the management of the PNAE in the southern municipalities of Rio Pardo, Santa Maria and São Gabriel be considered as composing service ecosystems based on co-creation of value?”

Therefore, the objective of this article is to assess the different forms of value co-creation in the execution of the PNAE in the state of Rio Grande do Sul in the three forms of resource management – centralized, decentralized, and outsourced. The selected cities were part of the research “Programa Nacional de Alimentação escolar (PNAE) gaúcho: um estudo



avaliativo em busca da aprendizagem para o desenvolvimento sustentável do Rio Grande do Sul” (“National School Feeding Program (PNAE) in Rio Grande do Sul: An evaluative study in search of learning for the sustainable development of Rio Grande do Sul”). The cities were Rio Pardo, which features centralized management; Santa Maria, which features decentralized management; and São Gabriel, which features outsourced management.

A study on the different forms of PNAE resource management in the state of Rio Grande do Sul is relevant, as it highlights how regional characteristics influence the perception of co-creation of value by public managers and the local community. Thus, municipalities find ways to carry out planning after prior analysis of the feasibility and applicability of the management format that best suits their reality.

To achieve the proposed objective, a qualitative-descriptive research method was chosen (BLATER; HAVERLAND, 2012; SAMPIERI; CALLADO; LUCIO, 2013; KUMAR, LEONE, AAKER; DAY, 2018) and abductive logic (MEZIRROW, 1991; CHARREIRE; DURIEUX, 2003; CRUZ, 2007), using a multiple-case study (STAKE, 2011; YIN, 2018) and semi-structured interviews (BISHOP, 2005) as a strategy.

## **2 LITERATURE REVIEW**

### **2.1 HISTORY AND OPERATION OF THE PNAE IN BRAZIL**

According to Peixinho (2013), the National School Feeding Program (Programa Nacional de Alimentação Escolar – PNAE) had its origins in the Social Security Meal Service (Serviço de Alimentação da Previdência Social – SAPS), which was founded in August 1940 (SILVA, 1995; SILVA; PEDROZO; SILVA, 2022; 2023a; 2023b; 2024a; 2024b; 2024c; 2024d; 2025).

During the 1950s, Josué de Castro, Federal Deputy and President of the Executive Board of the Food and Agriculture Organization of the United Nations (FAO), aimed to raise world awareness of the issue of hunger and extreme poverty, promoting projects that highlighted hunger and its possible solution through the action and will of social stakeholders (PEIXINHO, 2013). The period between 1955 and 1970 was characterized by the predominance of participation by international organizations in the PNAE. The 1960s were strongly marked by the presence of food sent by the United States, financed by the United States Agency for International Development (USAID) and the World Food Program (WFP) of the United Nations (PEIXINHO, 2013; SILVA, 2020; SILVA, PEDROZO; SILVA, 2023b; 2024b).



In 1976, the National School Feeding Campaign (Campanha Nacional de Alimentação Escolar – CNAE) was integrated into the Second National Food and Nutrition Program (II Programa Nacional de Alimentação e Nutrição – II PRONAN). In 1979, the Program was renamed the National School Meal Program (PNAE). Between 1976 and 1984, the PNAE constituted one of the guidelines of II PRONAN, coordinated by the National Institute of Food and Nutrition (Instituto Nacional de Alimentação e Nutrição – INAN), an autonomous agency linked to the Ministry of Health (PEIXINHO, 2013; SILVA, 2020; SILVA; PEDROZO; SILVA, 2024b).

From 1986 to 1988, the Student Assistance Foundation (Fundação de Assistência ao Estudante – FAE) encouraged decentralization through municipalization. The program was restricted, in 1986, to 83 municipalities in the country, and was expanded to 154 in 1987 and 184 in 1988. The FAE was responsible for financing, regulating, and purchasing formulated and processed foods, while the municipalities managed the program, being able to purchase basic and natural foods from local producers, cooperatives, industries, and small and medium-sized farmers.

In 1997, FAE was extinguished, and its programs were incorporated by the National Education Development Fund (FNDE) (PEIXINHO, 2013). In late 1998 and early 1999, the transfer of financial resources from the Federal Government began, no longer through agreements, but rather through automatic transfers. In 2000, the Federal Government established financial transfers to states and municipalities, but the existence of School Meal Councils (Conselhos de Alimentação Escolar – CAE) was mandatory (PEIXINHO, 2013; SILVA, 2020; SILVA; PEDROZO; SILVA, 2024b).

Another important form of articulation was Act 11,947 of June 16, 2009, which was the result of an intersectoral process in the Federal Government and the participation of civil society through the National Council for Food and Nutritional Security (Conselho Nacional de Segurança Alimentar e Nutricional – CONSEA) (PEIXINHO, 2013), in addition to the efforts of trade union mobilizations such as Grito da Terra Brasil. The union movement organized by the National Confederation of Agricultural Workers (Confederação Nacional dos Trabalhadores na Agricultura – CONTAG) and the Federations of Agricultural Workers from several states, on May 13-27, 2009, through 52 hearings involving over 30 government agencies, 14 ministers, and various executive secretaries, led to the approval of Provisional Measure 455/09 (Medida Provisória – MP 455/09) in the Federal Senate. This MP established



that at least 30% of family farmers should purchase food for school lunches (BROCH, 2009; SILVA, *et al.*, 2022; SILVA, *et al.*, 2023a).

On May 8, 2020, FNDE Resolution 6 was approved, bringing innovations and standard measures that had already been adopted by a number of executing entities. This Resolution provided guidelines for the executing units that opted to purchase meals through outsourcing services and established public bidding, in the form of a trading session, via electronic means, pursuant to Act 10,520, of July 17, 2002 and Decree 10,024, of September 20, 2019 (SILVA, *et al.*, 2022b; SILVA, *et al.*, 2023a).

In 2021, FNDE Resolution 21 of November 16, 2021, amended FNDE Resolution 6, as it increased the individual sales limit for family farmers and rural family entrepreneurs in the PNAE. From then on, the transaction started to respect the maximum amount of R\$40,000.00, complying with the following rules: For individual suppliers and informal groups, individual contracts signed are required to respect the maximum amount of R\$40,000, per Declaration of Suitability at PRONAF (Declaração de Aptidão ao Pronaf – DAP) for family farming; while for trade with formal groups, the maximum amount to be contracted must be the result of the number of family farmers, with a Family DAP, registered in the Legal DAP, multiplied by the individual trade limit.

After an introduction about the history of the PNAE, it is important to understand how it works, and which institutions contribute to its management. The program serves students in all basic education (childhood education, primary school, secondary school, and youth and adult education) enrolled in public schools, philanthropic schools, and community entities (partnerships with the government). The federal government transfers 10 monthly installments to cover 200 school days to the states and municipalities and federal schools, depending on the number of students enrolled (FNDE/PNAE, 2023a; SILVA, *et al.*, 2022; 2023a; 2023b; 2024b).

From an operational standpoint, the Federal Government participates in the PNAE, through the FNDE, which is responsible for defining the program's rules, with the executing entities being the education secretariats of the states, the federal district, and the municipalities, as well as the federal schools. Executing units are characterized as being civil organizations organized as legal entities under private law, linked to the schools and operating on a non-profit basis, with the possibility of being established by initiative of the schools, the community, or both. The Executing Units can be called "school box," "parent-



teacher association,” or “parent-teacher circle” (FNDE, 2023b; SILVA, *et al.*, 2022; 2023a; 2023b; 2024b).

The School Food Council (CAE) is responsible for monitoring the acquisition of products; the quality of food offered to students; the hygienic and sanitary conditions in which the food is stored, prepared, and served; distribution and consumption; financial execution; and the assessment of the executing entities’ accountability and issuance of the final opinion (FNDE, 2023b; SILVA, *et al.*, 2022; 2023a; 2023b; 2024b).

The Federal Court of Auditors and the Ministry of Transparency, Inspection and Comptroller General of the Federal Government are agencies also in charge of supervising the program. The Federal Public Prosecutor’s Office, alongside the FNDE, receives and investigates allegations of program mismanagement. The Secretariats of Health and Agriculture of the States, the Federal District and the Municipalities are able to collaborate with the PNAE through hygiene inspections, in order to certify the quality of the products used in the food offered, as well as articulating the production of family farming. The CAE is responsible for carrying out inspections in schools and education secretariats (FNDE, 2023b; SILVA, *et al.*, 2022; 2023a; 2023b; 2024b).

With the data presented on the history and operationalization of the PNAE, it is clear that there is a co-creation of value coordinated by the institutions and institutional arrangements, involving a more integrative view on the importance of providing healthy food to students, through resources available in the municipality, aiming to propose a policy that meets its possibilities.

## 2.2 DOMINANT LOGIC OF SERVICES AND VALUE CO-CREATION

In their study, Vargo and Lush (2017) assessed the theoretical perspectives of service-dominant (S-D) logic during the last decade. According to these authors, the S-D logic is able to continue to advance towards the development of a general theory of the market and, even more broadly, towards a general theory of value co-creation. Supporting this theory for the market requires the development of theoretical frameworks and concepts of service exchange, resource integration, value co-creation, value determination, and institutions and ecosystems.

During the 1990s, Vargo and Lusch (2004) drafted their first paper on S-D logic. In this first phase, the marketing activity and the economic activity in general are best understood in terms of an exchange of services for services rather than an exchange in terms of goods for



goods or goods for money. In this initial study, activities that arise from specialized knowledge and applied skills are used in the transmission of services, which represent the source of value and, thus, the purpose of the exchange (VARGO; LUSH, 2017; SILVA *et al.*, 2024b).

In a second phase of research related to S-D logic, value is co-created, rather than created by a stakeholder and subsequently delivered. What was new was the articulation of an initial, integrated framework for considering value co-creation in relation to a service-for-service exchange. Services were reconceptualized, abandoning the meaning of an intangible product unit. Said meaning was previously acquired through the orientation towards industry, production, and goods, developed from the concerns of Neoclassical Economics during the Industrial Revolution, for the adoption of a process meaning (VARGO; LUSCH; MORGAN, 2006; VARGO; MORGAN, 2005; VARGO; LUSH, 2017; SILVA *et al.*, 2024b).

Vargo and Lush (2017), in the third phase of their research, moved towards a new perspective that prioritizes the role of institutions in the co-creation of value. According to the authors, their intention is to offer an integrative approach that should help to identify additional and necessary developments. They note, however, that this should not be confused with a prediction of the future narrative. The authors, in this sense, depart from an analysis approach of the application of resources to the integration of these resources in a broader analysis, which extended to the client's connections with all those involved in the service-for-service exchange.

In this new phase, Vargo and Lush (2017) realize that there is an integration of resources, in particular operant resources, used in the provision of services that were both the source and the combined result of the service-for-service exchange. This showed that the co-creation of value was the continuous interaction of the creation and application of resources provided through reciprocal exchange and differential access and integration.

Nevertheless, a greater abstraction was necessary to understand the dynamism of relationships. All stakeholders who are engaged in economic exchanges are “similarly” resource integrators and service providers who have the common purpose of co-creating value. Relationships, however, are no longer just business-to-business (B2B), becoming stakeholder-to-stakeholder (S2S) (VARGO; LUSH, 2017).

Thus, the S-D logic adds several key features in which stakeholders are defined not only in terms of service delivery, but as integrated resources applied in favor of their recipients. It constitutes a network that has a purpose, not in the sense of collective intention,



but in the sense of survival, individual, and collective well-being (VARGO; LUSH, 2017; SILVA *et al.*, 2024b).

It should be noted that the establishment of a purpose focuses more on the complexity, emergence and self-organizing systems, which are crucial characteristics of service ecosystems. Furthermore, it indicates the need for a subtle but significant change in the orientation of the stakeholders, moving away from the primacy of conflict, towards a primacy of cooperation and coordination. This “purposeful” cooperative action leads to value co-creation. This coordination for the co-creation of value implies mechanisms to facilitate these activities of resource integration and service-to-service EXCHANGE. As partially discussed in Vargo and Lusch (2016), this is the role of institutions and institutional arrangements. Institutions comprise the man-made rules, standards and beliefs that allow and constrain action and make social life at least predictable and meaningful (SCOTT, 2008), which North (1990) refers to as the “rules of the game” (VARGO; LUSH, 2017).

Thus, the S-D logic identified the service ecosystem, which considers institutions, as the unit of analysis for value co-creation. According to Vargo and Lush (2017, p.49), this analytical lens allows the design of a coherent narrative of value co-creation through the integration of resources and exchange of services, coordinated by shared institutional arrangements between nested and overlapping service ecosystems (VARGO; LUSH, 2017; SILVA *et al.*, 2024b).

### 3 METHODOLOGY

To describe the different forms of value co-creation in the execution of the PNAE in the state of Rio Grande do Sul in the three forms of resource management, centralized, decentralized, and outsourced management. qualitative-descriptive research was chosen (BLATER; HAVERLAND, 2012; SAMPIERI; CALLADO; LUCIO, 2013; KUMAR; LEONE; AAKER; DAY, 2018) and abductive logic (MEZIROW, 1991; CHARREIRE; DURIEUX, 2003; CRUZ, 2007), using a multiple-case study (STAKE, 2011; YIN, 2018) and semi-structured interviews (BISHOP, 2005) as a strategy.

The selected cities were part of the research “Programa Nacional de Alimentação escolar (PNAE) gaúcho: um estudo avaliativo em busca da aprendizagem para o desenvolvimento sustentável do Rio Grande do Sul” (“National School Meal Program (PNAE) in Rio Grande do Sul: An evaluative study in search of learning for the sustainable development of Rio Grande do Sul”). The cities were Rio Pardo, which features centralized



management; Santa Maria, which features decentralized management; and São Gabriel, which features outsourced management. In total, 29 people, considered social stakeholders in the service logic, were interviewed. Table 1 shows the characterization of the interviewees and the dates on which the interviews took place.

**Table 1**

*Characterization of respondents in the municipalities visited in the state of Rio Grande do Sul*

Institution	Interviewee Code	Characteristics of the Interviewees	Interview Dates
Municipality of Rio Pardo			
SEMED – Municipal Secretariat of Education	ESME01RP	1. Administrative manager	13/07/2022
School Meal and Purchasing Sector	ESME01RP	2. RT nutritionist	14/07/2022
EMATER	EMAT01RP	3. Coordinator	15/07/2022
	EMAT02RP	4. Extension worker	15/07/2022
CAE – School Meal Council	ECAE01RP	5. Secretary (senior member)	14/07/2022
Municipality of Santa Maria			
SEMED – Municipal Secretariat of Education	ESME01STM	6. Nutritionist responsible for the PNAE	11/3/2021
Secretariat of School Security	ESME02STM	7. Secretary of Education	11/4/2021
CAE – School Meal Council	ESEGA01STM	8. Coordinator	11/4/2021
EMATER	ECAE01STM	9. President	11/4/2021
Cooper Cedro/ Unicentral	EMAT01STM	10. Extension worker	11/8/2021
EMEF Martinho Lutero	ECOOPC01STM	11. Founder	11/3/2021
EMEI Glaci Soares	EMEFML01STM	12. Principal	11/4/2021
EMEF Júlio do Canto	EMEIGS01STM	13. Principal	11/5/2021
	EMEFJC01STM	14. Principal	11/5/2021
EMEI Núcleo CAIC	EMEFJC02STM	15. Cook	11/5/2021
	EMEINC01STM	16. Vice Principal	11/8/2021
Municipality of São Gabriel			
SEMED – Municipal Secretariat of Education	ESME01SG	17. Nutritionist responsible for the PNAE	7/11/2022
	ESME02SG	18. Intern at the school meal department	7/11/2022



	ESME03SG	19. Secretary of Education	7/11/2022
	ESME04SG	20. Administrative Director	7/12/2022
	ESME05SG	21. Financial Officer	7/12/2022
EMEI Vó Edy	EMEIVE01SG	22. Principal	7/11/2022
EMEF Telmo Borba Menezes	EMEF01SG	23. Principal	7/11/2022
	EMEF02SG	24. Supervisor	7/11/2022
	EMEF03SG	25. Cook	7/11/2022
Qualiti Indústria Comércio	QANUTRI01SG	26. Nutritionist	7/11/2022
Serviços de Alimentação Ltda.	QANUTRI02SG	27. Nutritionist	7/11/2022
	QANUTRI03SG	28. Nutritionist	7/11/2022
CAE – School Meal Council	ECAE01SG	29. President	7/11/2022

Source: Research data.

The questions addressed to the interviewees were based on the questions addressed to a service ecosystem between institutions for the co-creation of value presented by Vargo and Lush (2017), as shown in Table 2.

**Table 2**

*Questions addressed to a service ecosystem between institutions for value co-creation through the integration of resources and service exchanges*

1. How are service ecosystems set up?
2. How do service ecosystems adapt and evolve?
3. What determines the resilience of service ecosystems?
4. How do the main stakeholders in an ecosystem establish their position?
5. How do service ecosystems innovate and how do they promote market emergence?
6. How can ecosystem services be integrated and promoted by service ecosystems?
7. What are the institutions and institutional arrangements that allow service ecosystems to be held together and function?
8. Are there specific institutions that are more relevant or which need to be developed for digitally based service ecosystems?
9. How can the institutional perspective be used to study innovation, market emergence, and market plasticity, as well as the decay of companies or industries and even markets?
10. How does institutional maintenance work continue to allow organizations to explore and experiment with new institutional rules and face risk and uncertainty, be able to survive, and in some cases, thrive?

Source: Vargo and Lush, 2017, p.50.



It should be noted that there were language adaptations, and some questions were simplified based on the context of the interviewees. The interviews, as well as the observation process, were documented using field notes (LOFLAND, 1974; LOFLAND; LOFLAND, 1995). After transcribing the interviews, content analysis was used (BARDIN, 2011) for the treatment of collected data, organized around three chronological centers: pre-analysis; exploration of the material; and treatment of results, inference, and interpretation (BARDIN,2011).

## **4 RESULTS**

### **4.1 RIO PARDO**

Rio Pardo belongs to the geographical mesoregion of the Eastern Center of Rio Grande do Sul, which is composed of 54 municipalities, grouped into three microregions. It is located in the transition region of the Pampa Gaúcho and the Atlantic Forest Biome. It has a population of 38,265 inhabitants (IBGE, 2021). The municipality has an area of 2,051 square kilometers, bordering the municipalities of Butiá, Minas do Leão, Pantano Grande, Encruzilhada do Sul, Cachoeira do Sul, Candelária, Vera Cruz, Santa Cruz do Sul, Passo do Sobrado, and Vale Verde, in addition to being located 145 kilometers from Porto Alegre (Prefeitura Municipal de Rio Pardo, 2022).

The management of PNAE resources is centralized, with the Secretariat of Education of the Municipality of Rio Pardo acquiring school food products and distributing them to the 27 schools of the Municipal Public Network, of which 12 are Municipal Schools for Early Childhood Education (Escolas Municipais de Ensino Infantil – EMEIs) and 15 are Municipal Primary Schools (Escolas Municipais de Ensino Fundamental – EMEFs). Approximately 2,400 students are served by the Food and Purchasing Sector, which is composed of three servants, one administrative person who helps with school meals, one nutritionist, and one sector manager. Rio Pardo is marked by a peculiarity: the School Meal sector works alongside the purchasing sector in the Secretariat.

Activities in the Food and Purchasing Sector are divided between the nutritionist, who is responsible for preparing menus, visiting schools, among other duties inherent in her profession. The administrative manager organizes the public call in compliance with Act 11.947, being responsible for contacting EMATER and the farmers, while the sector manager checks and forwards the documentation to the other sectors to proceed with the public call.

Regarding the relationship between school meals and family farming, the municipality of Rio Pardo stands out for complying with Act 11,947. Since 2013, it has shown significant



results, as shown in Table 3. It should be noted that percentages have been consolidated since 2015, with the decision to adopt Act 11,947 as of 2012.

**Table 3**

*FNDE transfer and amount invested in family farming between the years 2009 to 2021 in Brazilian reais and U.S. dollars for school meals*

Year	Total funds invested	Municipal funds	Federal funds	Family farming (federal funds)	% Family farming
2021	R\$477.816,42	R\$129.338,62	R\$348.477,80	R\$320.439,18	67.06%
	USD87,672.73	USD23,731.86	USD63,940.88	USD58,796.17	
2020	R\$280.264,18	*	R\$352.864,60	R\$214.866,14	60.89%
	USD51,424.60		USD64,712.77	USD39,424.97	
2019	R\$651,801,75	R\$337.145,75	R\$314.656,00	R\$271.094,47	86.15%
	USD119,596.65	USD61,861.60	USD57,735.04	USD49,742.10	
2018	R\$417.678,04	R\$119.696,04	R\$297.982,00	R\$254,640,04	85.45%
	USD76,638.17	USD21,962.57	USD54,675.59	USD46,722.94	
2017	R\$570,120,81	R\$251.417,81	R\$318.703,00	R\$194.548,08	61.04%
	USD104,609.32	USD46,131.70	USD63,613.37	USD35,696.89	
2016	R\$546.283,80	R\$282.583,80	R\$263.700,00	R\$291.249,05	100%
	USD100,235.55	USD51,850.23	USD48,385.32	USD53,440,19	
2015	R\$545.512,91	R\$279.956,91	R\$265.556,00	R\$224.563,94	84%
	USD100,094.11	USD51,368.24	USD48,725.87	USD41,204.39	
2014	R\$567.332,79	R\$277,060,79	R\$290.272,00	R\$43.864,55	17%
	USD104,097.75	USD50,836.84	USD53,260.91	USD8,048.54	
2013	R\$336.819,93	R\$90.879,93	R\$245.940,00	R\$137.799,57	56%
	USD61,801.82	USD16,675.21	USD45,126.60	USD25,284.32	
2012	R\$399.556,22	R\$197.380,22	R\$202.176,00	R\$7.297,60	3.61%
	USD73,313.06	USD36,216.55	USD37,096.51	USD1,339.00	
2011	R\$213,355,82	R\$116.485,82	R\$96.870,00	0	0%
	USD39,147.85	USD21,373.54	USD17,774.31		

Source: FNDE 2011-2016 Family Farming Participation Worksheet and Rio Pardo Transparency Website.

\* A lower amount was spent than that provided by the FNDE.

U.S. dollar exchange rate referring to 13/10/2025 (R\$5,45 = USD1.00).

These results are due to the integration maintained by EMATER with approximately 1,200 farming families in the municipality. The team is composed of four professionals, including three in the economic area and one in the social area. Interviewee EMAT02RP is responsible for contacting farmers to organize the public call.



Interviewee EMAT02RP started interacting with Act 11,947 in the municipality of Rio Pardo in 2014. In the same period, a new administration had taken over and wanted to encourage the growth of family farming. The extension worker is considered a catalyst agent who mediates the interests of farmers and the municipal secretariat of education. The school meal menu is based on the availability of agricultural products, according to their seasonality and the quantity each producer is able to deliver. It should be noted that the interviewee was president of the CAE, so he had a greater understanding of the guidelines of Act 11,947. The following report shows how Act 11,947 was introduced in the municipality.

We then started. A new administration had come in, and people came to us at the time and asked us to implement this at the municipal level, because we had nothing. At the same time, that year when we had already started the process, even the FNDE showed up, because we were with virtually zero progress. In previous years, we had virtually nothing, and then we were more or less advanced. That definitely helped a lot, including regarding demystifying something that issue of the Municipality's legal sector. They wanted to work as a tender, as opposed to a public call. So, they carried out the consultation for their agencies and made changes in relation to the public call. Then, with that pressure, we ended up going there in Porto Alegre and managed to change things here, reaching the mark of 100% of the value from the PNAE being intended for local family farming (interviewee EMAT02RP).

Interviewee EMAT02RP's report shows the municipality's initial difficulty in understanding Act 11,947 and the guidelines for the public call. It was necessary to involve an institution such as Autonomous Entity for Technical Assistance and Rural Extension (Entidade Autárquica de Assistência Técnica e Extensão Rural – EMATER), which acts to promote technical assistance, land regularization, and intermediation in financing for farmers. A public agency for rural extension was essential for the municipal government to understand that, by implementing Act 11,947, in addition to providing healthier food for students, it could also foster the local economy.

It is important to emphasize that the region of Rio Pardo was a great producer of tobacco. Therefore, encouraging food production is a way to restructure the municipality's agricultural vocation, in addition to reducing farmers' dependence on a volatile market, which is not committed to regional development.

In a centralized management of PNAE resources, interaction between social stakeholders is greater, and there are few institutions that participate in decision-making, so it is easier to direct the municipality towards a consensual co-creation of value among



stakeholders. This is not something impossible in decentralized management but is more complex. This was observed in the municipality of Santa Maria.

#### 4.2 SANTA MARIA

Santa Maria is a municipality in the state of Rio Grande do Sul, which, according to estimates by the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística – IBGE, 2021), has 285,159 inhabitants. Because of its central geographic position and its location in the southern portion of the state, in the Central Western region, it has been strategic in terms of territorial conflicts since the times of the Brazilian Empire. For this reason, for several decades, the investments concentrated in the location were related to national security. Thus, a structure and an economic vocation were formed in the municipality, focusing on the provision of services, which, in addition to being a university center, offers state and federal public services and has a strongly developed commerce (Prefeitura Municipal de Santa Maria, 2021). This city is also located in the transition region of the Pampa Gaúcho and the Atlantic Forest Biome and has a subtropical climate (IBGE, 2021).

The management the of PNAE funds became mixed (school-based) through Municipal Act 4,997 of April 27, 2007. This type of management involves a monthly transfer of funds to the legally constituted School Councils of Municipal Schools. In the event that the schools do not have School Councils, they receive school meals through the centralized purchase process, under the responsibility of the Municipal Secretariat of Education (Secretaria Municipal de Educação – SMED). The Municipal Public Network has a total of 20,000 students, distributed in 80 schools, of which 11 are philanthropic institutions.

Although each school receives its resources directly, the municipality retains 40% of the amount provided by the FNDE for the purchase of family farming products. The purchase of such products is centralized through a universal public call. The winning cooperative is responsible for making deliveries directly to schools, as there is no central warehouse. Generally, two public calls are made per year.

The remaining value – i.e., 60% of the FNDE resource – is directed to schools, which acquire the remainder of the meals by preparing a small process of 3 quotes for each item purchased. There is no tender for the purchase of the other foodstuffs – principals buy the goods in local markets. The School Meal Department consists of 2 nutritionists, although one



is on premium leave (in the process of retiring) and the other is a public servant who is in charge of accountability.

The nutritionist also has a background in biology, which is of assistance when interacting with the farmers. The focus of the current management consists of investing in people to improve or recreate processes. It is important to emphasize that the team in the Secretariat of Education was formed in 2017. Subsequently, a mandate was passed with the aim of focusing on human resources, both in the number of people and in training. With the re-election of the mayor in 2020, the secretary of education wishes to continue this process.

When asked about decentralized management, interviewee ESME02STM, secretary of education in the municipality, describes what she thinks and how this PNAE resource management mode came about in Santa Maria:

I believe that management is even more participative, and in fact, the management principle that regulates everything in the school is democratic management. This method was implemented in 2006, during the two Workers' Party (Partido dos Trabalhadores – PT) administrations, with Deputy Valdeci, who was a teacher. I think it was him. The entire democratic management system was implemented, and when we took over management in 2017, we did not change that. It remained. [...] The municipality has a program for the decentralization of the municipal budget, which is PRODAE. So, the school receives federal funding directly. I think that the school board and the municipality transfer and decentralize resources for this management. So, the management of schools in the municipality has a lot of autonomy. This has two sides, because when autonomy exists, the understanding of autonomy is independence. There is, however, no independence regarding the sponsoring entity because all control is carried out by it. The appeal is valid, but I have to report to a sponsoring entity (interviewee ESME02STM).

There are several demands to be met for the execution of PNAE. The first was the number of cooks – there were 30 cooks for 80 schools, so there was a move to hire a third-party company to supply that number. The current challenge consisted of hiring another nutritionist, establishing partnerships with local educational institutions to have more interns from the nutrition course to assist, through visits to schools, in the development of food education activities, nutritional assessment and acceptance of new dishes in meals. It was also necessary to spend more time training the cooks.

Nevertheless, one aspect that worries the secretary and which will comprise her next challenge in this management is the amount invested in the acquisition of food. In Santa Maria, they only use FNDE funds, there is no counterpart from the municipality. There are



plans to take funds from the Education Salary Quota (Quota Salário Educação – QSA) to expand investments in school meals, but this is not yet a concrete fact.

Another important stakeholder is the cooperative Coopercedro, which is part of a federation of cooperatives known as Unicentral. Interviewee ECOOPC01STM was founder of both the cooperative and the cooperative center and was president of both organizations. Currently, he is the general manager of both, being very active in his duties.

Coopercedro was founded on October 30, 2006, to serve the Food Acquisition Program (Programa de Aquisição de Alimentos – PAA). In June 2010, they began serving the municipality's PNAE. The interviewee highlighted the political resistance at the time and how the programs were not implemented due to political positioning. The municipality's PNAE only became available when a farmer publicly demanded a response from the mayor during an event, with the public call being approved two weeks later.

On November 18, 2014, Unicentral was founded, with the aim of participating in more institutional policies. Local cooperatives did not have the capacity to supply all the products in public calls and ended up losing sales to cooperatives in other regions. Hence, to solve this problem, Unicentral was created, comprising an association of several cooperatives distributed in the region and in the state. Because it is located in the municipality, it has priority in the purchase, and the products that are not available in the region are obtained from other cooperatives.

The interviewee highlighted the partnership established with the municipality, and how the conversation with the nutritionist brought them together to rethink the organization in purchasing products from family farming. If the municipality did not retain 40% of the purchase value, they would probably not be able to sell at the same rate to all schools in the schooling system. This can be better understood in the following report.

Here in Santa Maria in either 2013 or 2014, we observed a percentage increase from 30% to 35%, but I was not able to ask for more due to the organization itself. Unicentral had nothing to give. Two years later, we tried again. We asked for more because, because the money eventually comes. We have a certain level of autonomy here, being the only municipality in Rio Grande do Sul to have it, since it had a school network. The funds are then sent to the school, following the same model as at the state level. The federal funds go to the account of the FNDE, which is a management entity that transfers them to the schools. Here, however, it was the municipality that had to do everything, so it created the school network. I believe it was a demand from the schools, which wished to have more autonomy. To increase this percentage, the municipality has to retain more, because it withdraws exactly 30%. So, if there is any product that is not previously proposed, the 30% amount will not be enough. Similarly,



for 35%, you have to make sure you will use the 35%. So, whenever possible, the value goes up to 40%. Two years later, we asked for 40%, and three years later they gave 40% (interviewee ECOOPC01STM).

Another relevant fact is that the cooperative's building and a truck used for deliveries are borrowed by the municipality. One further detail that weighed heavily on the organization of the cooperatives is that ECOOPC01STM was an extension worker at EMATER and was eventually dismissed for not agreeing with some internal policies and political issues. He subsequently used this acquired knowledge to create Coopercedro and, later, Unicentral.

EMATER's current management, according to interviewee EMAT01STM, covers the areas of association, cooperation, institutional markets, and the agroindustry area. According to interviewee EMAT01STM, the municipal offices, which are part of the Santa Maria regional office, serve 35 municipalities, 3,406 families, and 510 informal groups, carrying out 3,147 sales projects. Indirectly, through training promoted alongside the cooks, they impact 1,539 cooks, 806 schools, and 59,000 students, considering both the municipal and state networks.

Regarding the participation of the Secretariat of Food Security in the management of the PNAE, it was verified that it indirectly influenced the program. According to interviewee ESEAGA01STM, all interaction with the institutional policy for buying food from family farming started in this department. It included one nutritionist in charge of working with the PAA to serve the popular restaurant and the nutritionist responsible for the PNAE, who were allocated to the Secretariat of Food Safety. This was the understanding of the Secretary of Education at the time, who later opened a competition for the hiring of another nutritionist. Only in 2017, due to the understanding of the new management, did the nutritionists return to the Municipal Secretariat of Education.

For interviewee ESEAGA01STM, the interaction that the nutritionists from the municipal Secretariat of Education had with the nutritionist from the Secretariat of Food Security was essential in the understanding of the dynamics of family farming, such as the issue of food security.

During the visits to the schools, it was possible to see how each principal manages the funds provided by the FNDE. The vice principal of Núcleo de Educação Infantil CAIC, interviewee EMEINC01STM, has worked at the day care center for 21 years and accompanied the process of decentralization of school meals in 2007. She reported that there was a lot of stuff that the day care center did not use, including plenty of canned foods and



ground meat, the latter of which looked like a “frozen brick,” but that now, with family farming, everything is fresher.

In turn, at Escola Municipal Júlio do Canto Municipal, the principal, interviewee EMEFJC01STM, explained how purchases are made, following the percentage of Article 21 of FNDE Resolution 6 of 75% natural and minimally processed products, 20% processed products, and 5% condiments. Nevertheless, he stressed that there are events organized by the school to raise money for school meals and that food donations are also available.

At Escola Martinho Lutero, the principal, interviewee EMEFML01STM, explains that the school is located in a region that was occupied by an area called Fazenda Santa Marta. It is a vulnerable region, and the children showed behaviors resulting from this reality. For example, early each week, after the weekend, they returned extremely agitated. The management believed that it could be something related to the lack of adequate meals on weekends and began to develop a number of projects to ensure the dignity of these students. There is special care regarding the provision of school meals, and collective efforts are often carried out by the community and teachers to maintain quality.

Another situation, which emphasizes the importance of schools, was observed at Escola Municipal Infantil Glaci Corrêa da Silva, which is located in a community where most parents are recyclable waste collectors. According to the principal, interviewee EMEIGS01STM, the school operates on a full-time basis precisely to meet the needs of an extremely impoverished community. In this case, the school works to serve children aged 6 months to 3 years old, providing adequate learning for early childhood and healthy food.

Each school manages the resources from the PNAE according to its needs, and although the municipality of Santa Maria has managed to organize itself to promote family farming, there are still difficulties in serving the schools, which have to buy the other foods for the school meal with only 60% of the funds made available by the FNDE.

For interviewee ECAE01STM, President of CAE, the fact that the municipality fails to provide a counterpart for school meals does not guarantee compliance with the menu, as schools are unable to offer meals every day. According to him, some principals use their own private funds to make school meals happen, which is why it is important to put pressure on the current management of the municipality to offer this amount to improve the quality of meals. This difficulty faced by Santa Maria does not concern the management model adopted, i.e., decentralized management, but rather, the funds allocated for school meals.



Table 4 shows the distribution of the funds received by the FNDE, despite the fact that the municipality complies with Act 11,947. What remains to be invested in the acquisition of school food items is a small amount, when considering the number of students in the municipal education network.

**Table 4**

*FNDE transfer and amount invested in family farming between the years 2009 to 2021, in Brazilian reais, for school meals*

Year	Federal funds	Family farming	% Family farming
2021	R\$2.399.414,60	R\$840.225,71	35%
	USD440,259.55	USD154,169.85	
2020	R\$2.418.908,80	R\$828.962,20	34,27%
	USD443,836.47	USD152,103.15	
2019	R\$2.189.318,00	R\$893.098,26	40,79%
	USD401,709.72	USD163,871.24	
2018	R\$2.475.774,00	R\$1.024.195,31	41%
	USD454,270.45	USD187,925.74	
2017	R\$2.291.208,80	R\$894.442,53	39,04%
	USD420,405.28	USD164,117.89	
2016	R\$1.767.540,00	R\$650.706,91	36,81%
	USD324,319.26	USD119,395.76	
2015	R\$2.101.448,00	R\$581.531,71	27,67%
	USD385,586.78	USD106.703,06	
2014	R\$2.215.680,00	R\$659.300,95	29,75%
	USD406,546.78	USD120,972.65	
2013	R\$2.128.080,00	R\$600.394,19	28%
	USD390,473.39	USD110,164.07	
2012	R\$1.915.080,00	R\$524.927,90	27,41%
	USD351,390.82	USD96,317.04	
2011	R\$1.805.160,00	R\$498.947,37	27,64%
	USD331,222.01	USD91,549.97	

Source: FNDE 2009-2017 Family Farming Participation Worksheet, SigPC, 2009-2021, and Report provided by SEMED on the value of the public calls.

U.S. dollar exchange rate referring 13/10/2025 (R\$5,45 = USD1.00).

With regard to local development, Santa Maria has succeeded in the co-creation of value among farmers. It is important to note that the catalyst for this process is interviewee ECOOPC01STM. He is the one who negotiates the percentage of participation of family farming in the municipality and has professional experience that helps him mediate conflict



situations between municipal public management and farmers. It should be mentioned that Unicentral enables the practice of regional inter-cooperation, i.e., the receipt of products from other regions and the shipment of surplus products to other municipalities.

In the case of Santa Maria, the number of social stakeholders is greater, and thus, the co-creation of a common value is more complex. The interests of each stakeholder culminate in the interest in increasing the resources invested in school meals. On the one hand, schools need a financial contribution from the municipality to improve the quality of meals, and on the other hand, farmers wish to increase the amount allocated to the purchase of products from family farming. It is up to the management of the Municipal Secretariat of Education to find a way to balance these demands.

Although decentralized management is relatively more complex than centralized management, it still remains restricted to the public sphere. In turn, outsourced management starts to interact with the private sector. This type of scenario was observed in the municipality of São Gabriel, whose interactions are described in the following topic.

#### 4.3 SÃO GABRIEL

São Gabriel is a municipality that extends over an area of 5,023.8 square kilometers and which had 62,105 inhabitants in the last census. The municipality is located 89 kilometers from Santa Maria and 328 kilometers from the state capital Porto Alegre, being located in the Southwest region of the state of Rio Grande do Sul. It is located in the Pampa Gaúcho biome and has a subtropical climate (IBGE, 2021). Its economic base is mainly linked to agriculture, where the production of rice, soy and beef cattle predominates. Recently, a diversification of production began, with the development of fish farming and beekeeping (Prefeitura Municipal São Gabriel, 2022).

The Commerce and Services Sector accounts for more than half of the Municipality's Gross Domestic Product (GDP), especially small and micro-enterprises, which receive incentives from the municipality. The industry operates especially in the Textile and Agro-Industrial Sector, which also with the attention of the Administration, promotes an increase in the generation of employment and income. São Gabriel has all the infrastructure for the development of agro-industries, including facilities and incentives from the Public Authority (Prefeitura Municipal de São Gabriel, 2022).

The management of PNAE funds has been outsourced since 2009, and since the ratification of Act 11,947, the municipality has always used the services of Quali Indústria



Comércio Serviços de Comida Ltda. The total number of students in the Municipal Public Network is 7,000 students, distributed in 38 schools, of which 8 are rural schools. The School Meal Sector is composed of a nutritionist responsible for the PNAE (interviewee ESME01SG), and an intern with a degree in law (interviewee ESME02SG).

The contract with the outsourced company, Qualiti Industria Comercio Serviços de Comida Ltda., establishes that the company should perform continuous food supply services, including pre-preparation, preparation and distribution of food, with the supply of all foodstuffs and other necessary inputs, logistics, supervision, preventive and corrective maintenance of the equipment and utensils used, and cleaning and conservation of the areas covered. Payment is made within ten (10) days after the invoicing protocol is finalized, corresponding to the meals served during a two-week period, with due authorization from the municipal education departments attesting to the receipt of the execution of the services. It should be noted that Qualiti serves 3 secretariats: the Municipal Secretariat of Education, the Municipal Secretariat of Health, and the Municipal Secretariat of Social Assistance.

With regard to foodstuffs from family farming, the Secretariat of Education organizes the public call, and qualified farmers deliver their products to Qualiti. The amounts spent on family farming are deducted from the contract, i.e., the municipality pays farmers directly using PNAE funds.

When questioned about the municipality's choice for outsourced management, interviewee ESME01SG gave a brief report, as shown below.

In the conversation you briefly had with the secretary, you must have noticed that some other places had a very serious problem of misappropriation of meals and funds, and things were no different here. Unfortunately, there was a massive problem of misappropriation, Not only regarding the budget but also meals after the purchase, not to mention the problems relating to lack of personnel. We did not have a number of personnel that could support our number of students. The schools also faced problem in terms of management at the internal level. This series of problems led the city of São Gabriel to look for a way out, which led us to this solution. We saw the outsourcing process was yielding good results in places that had previously implemented it, the main case being São Paulo. You know how it goes – you want to make sure you copy what works. From that moment on, the city of São Gabriel began this outsourcing process. [...] Either way, São Gabriel initiated an outsourcing process in 2009, and from then on, the food area had a boom, as the system completely changed. There used to be many complaints regarding school meals. You were once a student, too. You must remember what lunch hour was like. It was either soup or cookies with milk, and that was it. We did not have a diversified, nutritious, healthy diet. That also generated a lot of complaints (interviewee ESME01SG).



Interviewee ESME03SG, secretary of education, highlighted the pioneering spirit of the municipality in the implementation of outsourcing school meals, since 2009. He reinforced that the implementation of this type of management was due to previous problems such as misappropriation of funds and food.

The administrative manager of Qualiti Indústria Comércio Serviços de Comida Ltda. believes that outsourcing school meals facilitates the issue of price adjustment, as the bidding process or even the public call takes a few months to complete. Moreover, oftentimes, the supplier is not able to maintain the initial price, which makes it necessary to go through another bureaucratic procedure for this to occur, causing further delays. This is better explained in the following account:

If it were the municipality, they would have to carry out a bidding process and a whole study, involving a price survey and budgets. Also, because it is a long-term commitment, purchases have to be made for the entire year. Sale prices are set at the beginning of the year. The municipality buys the products, so when you go buy them, it turns out that the producers are already selling at a different price, and they refuse to sell for the original price. In that situation, the nutritionist ends up getting the short end of the stick, because she has to comply with a menu and she is not able to. That is not the case with the outsourced companies. We can make it happen. We can make sure that the purchases are made and that the menu is followed regardless of what happens. That is one of the things that I think makes all the difference (interviewee QANUTRI01SG).

It should be noted that the team of the company that provides outsourcing services for school meals is composed of 2 nutritionists and the administrative manager. The nutritionists visit the schools, checking the menu, inventory, organization, cleaning, and number of meals served, in addition to interacting with the cooks hired by Qualiti. In turn, the administrative manager is responsible for the purchasing process and central inventory management, in addition to interacting with the education department, the nutritionist in charge of the PNAE, and the financial administrative department. Both public management and outsourced management of school meals work together to deliver quality meals.

The municipality of São Gabriel presents a counterpart 4 times greater than the value provided by the FNDE. Nevertheless, it is not able to reach the purchase of 30% from family farming. Table 5 shows how investments in school meals were made in previous administrations.



**Table 5**

*FNDE transfer and amount invested in family farming between the years 2017 to 2021 in Brazilian reais for school meals*

Year	Total funds invested	Municipal funds	Federal funds	Family farming (federal funds)	% Family farming
2021	R\$3.737.235,64	R\$3.082.827,46	R\$616.999,54	R\$37.408,64	6%
	USD685,731.31	USD565,656.41	USD113,210.92	USD6,863.97	
2020	R\$1.662.957,31	R\$924.341,06	R\$720.254,68	R\$18.361,57	2.5%
	USD305,129.78	USD169,603.86	USD132,156.82	USD3,369.09	
2019	R\$4.179.069,96	R\$3.388.047,44	R\$695.770,49	R\$95.252,03	13.69%
	USD766,801.82	USD621,660.08	USD127,664.31	USD17,477.43	
2018	R\$3.749.150,52	R\$2.907.668,21	R\$815.612,99	R\$25.869,32	3.17%
	USD687,917.52	USD545,076.73	USD149,653.75	USD4,746,66	
2017	R\$3.447.525,61	R\$2.257.594,24	R\$1.138.667,82	R\$51.263,55	4.5%
	USD632,573.50	USD414,237.47	USD208,929.87	USD9,406.15	

Source: FNDE 2011-2016 Family Farming Participation Worksheet. For the years 2017-2021, report provided by SEMED, on the value of the public calls. U.S. dollar exchange rate referring 13/10/2025 (R\$5,45 = USD1.00).

In the case of São Gabriel, the co-creation of value focuses on a better-quality meal, in addition to ensuring public transparency. According to the reports presented, there were many problems related to the misappropriation of funds from school meals, which this was resolved through outsourcing. Nevertheless, with regard to the promotion of local agriculture, the municipality failed to comply with Act 11,947. Although there are rural properties in the region, they are focused on other markets. Value co-creation is restricted to public-private management and students.

## 5 DISCUSSION AND CONCLUSION

In all the cases presented, there was a specific way of integrating resources for the execution of the PNAE. Differences begin long before the choice of how to manage the program. Each municipality had an agricultural organization, as well as a political and cultural history, which influenced the choices of municipal managers, which in turn influenced the co-creation of value in the provision of school meals.

The assessment of municipalities with a different population number showed that this is not a limiting factor for the municipality. For example, São Gabriel has 7,000 students covered by the PNAE and invests around 4 million Brazilian reais in school meals. The average spending per student in one year reaches the mark of R\$571.42 (USD114.05). In



turn, Santa Maria has a municipal school network with about 20,000 students and its investments do not exceed 2,500,000 Brazilian reais (USD499,002.00), i.e., the average expenditure per student is R\$125.00 (USD24.95) per annum. Rio Pardo, despite having a smaller number of students – approximately 2,400 – spent around 400,000 to 600,000 Brazilian reais (79,840.32 to 119,760.50 U.S. dollars), with an annual spending of R\$250.00 (USD49.84) per student.

In Rio Pardo, it was essential to encourage family farming to meet the needs of the PNAE, as the region was a major producer of tobacco. Therefore, encouraging food production was a way to restructure the municipality's agricultural vocation. In the municipality of Santa Maria, however, despite its fewer resources, it was possible for around 3,400 farming families to work on the field to meet the demand for school meals.

In São Gabriel, although the region has significant agricultural production, producers do not prioritize compliance with public food policies, one of the reasons for outsourcing being the possibility of having a greater variety of foods purchased in other regions. There was an effort by the nutritionist from the Secretariat of Education to increase the number of farmers in 2019, and the tendency was to carry out the same process in 2020. Nevertheless, with the COVID-19 pandemic, the work that had been carried out was disrupted. There are expectations of resuming this contact with farmers in 2023.

Another factor observed was the type of resource management adopted. The municipality of Santa Maria, through its decentralized management, was the one with the highest number of social stakeholders, highlighting the leading role of school managers. Each principal establishes a project or alternatives to maintain the quality of school meals in their community. The Secretariat of Education has greater challenges, as, although its number of students is significantly higher than in the other municipalities surveyed, the size of the School Meal Department team is smaller than in the municipality of Rio Pardo. It should be noted that Santa Maria features greater participation of universities, as they send their students from the nutrition course to act as interns, helping the nutritionists.

In the case of Rio Pardo, centralized management allows greater control over actions in the municipality. In essence, an EMATER extension worker and two servants from the School Meal and Purchasing Sector (administrative manager and nutritionist) are in charge of organizing the farmers and preparing the initial draft of the public call.

In São Gabriel, the interaction for the implementation of the PNAE is directed by the nutritionist from the Secretariat of Education and the team from Quali Indústria Comércio



Serviços de Comida Ltda. Schools are supervised by both teams, which ensures a stricter control over meals.

In the cases presented, it was observed that the FNDE funds (operating resources) generate an exchange of services between public managers and the population – in this case, the school food service established by the PNAE. With that, a different value co-creation was evidenced in each municipality, which is based on complexity, emergency and self-organized systems.

The data indicated that, irrespective of the type of management adopted, stakeholders are oriented towards cooperation, which in turn leads to the co-creation of value. Mechanisms were also identified to facilitate these activities relating to the integration of resources into the PNAE. The role of institutions and institutional arrangements was verified, through rules, standards and beliefs that give meaning to the School Meal service.

For all the reasons presented here, the PNAE is considered a service ecosystem in which relationships are no longer business-to-business (B2B), but rather stakeholder-to-stakeholder (S2S), emphasizing the role of institutions in co-creating value and reinforcing Vargo & Lush's (2017) vision of an integrative approach that assists in the identification of additional and necessary developments. Therefore, this study served as an empirical evaluation, further contributing to the structure of S-D logic. Moreover, through this article, it was possible to simplify issues and resolve existing tensions and paradoxes in the implementation of the PNAE. Operationally, it offered subsidies for managers in the municipalities of the state of Rio Grande do Sul to rethink their local development strategies, considering the program's legislation.

One of the limitations of this article was the lack of a possibility to contemplate the other municipalities visited through the research "Programa Nacional de Alimentação escolar (PNAE) gaúcho: um estudo avaliativo em busca da aprendizagem para o desenvolvimento sustentável do Rio Grande do Sul," which could certainly contribute for a greater diversity of findings regarding the co-creation of value and serves as a recommendation for the development of future studies, as well as the suggestion of studies addressing the S-D logic applied to other public policies.

## REFERENCES

Bardin, L. (2011). *Análise de conteúdo*. Edições 70.



- Blatter, J., & Haverland, M. (2012). *Designing case studies: Explanatory approaches in small-N research*. Palgrave Macmillan.
- Bishop, R. (2005). Freeing ourselves from neocolonial domination in research: A Kaupapa Maori approach to creating knowledge. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed.). Sage Publications.
- Brasil. (2019). Decreto nº 10.024, de 20 de setembro de 2019. Regulamenta a licitação, na modalidade pregão, na forma eletrônica, para a aquisição de bens e a contratação de serviços comuns, incluídos os serviços comuns de engenharia, e dispõe sobre o uso da dispensa eletrônica, no âmbito da administração pública federal. [https://www.planalto.gov.br/ccivil\\_03/\\_ato2019-2022/2019/decreto/d10024.htm](https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/decreto/d10024.htm)
- Brasil. (2002). Lei Federal nº 10.520, de 17 de julho de 2002. Institui, no âmbito da União, Estados, Distrito Federal e Municípios, nos termos do art. 37, inciso XXI, da Constituição Federal, modalidade de licitação denominada pregão, para aquisição de bens e serviços comuns, e dá outras providências. [http://www.planalto.gov.br/ccivil\\_03/leis/2002/l10520.htm](http://www.planalto.gov.br/ccivil_03/leis/2002/l10520.htm)
- Brasil. (2009). Resolução nº 38, de 16 de julho de 2009. Dispõe sobre o atendimento da alimentação escolar aos alunos da educação básica no Programa Nacional de Alimentação Escolar - PNAE. <https://www.legisweb.com.br/legislacao/?id=111747>
- Brasil. (2020). Resolução nº 6, de 8 de maio de 2020. Dispõe sobre o atendimento da alimentação escolar aos alunos da educação básica no âmbito do Programa Nacional de Alimentação Escolar – PNAE. <https://www.gov.br/fnde/pt-br/aceso-a-informacao/legislacao/resolucoes/2020/resolucao-no-6-de-08-de-maio-de-2020/view>
- Brasil. (2021). Resolução nº 21, de 16 de novembro de 2021. Altera a Resolução CD/FNDE nº 6, de 8 de maio de 2020, que dispõe sobre o atendimento da alimentação escolar aos alunos da educação básica no âmbito do Programa Nacional de Alimentação Escolar – PNAE. <https://www.portalcompras.ce.gov.br/wp-content/uploads/sites/80/2021/12/RESOLUO-N-21-DE-16-DE-NOVEMBRO-DE-2021-.pdf>
- Broch, A. E. (2009). Congresso Nacional aprova projetos importantes para o MSTTR. *Jornal da Contag*, 3(6). <http://www.contag.org.br/imagens/f1620contagmaiojunho.pdf>
- Charreire, S., & Durieux, F. (2003). Explorer et tester: Deux voies pour la recherche. In R. A. Thiétart et al. (Orgs.), *Méthodes de recherche en management*. Dunod.
- Cruz, L. B. (2007). O processo de formação de estratégias de desenvolvimento sustentável de grupos multinacionais [Tese de doutorado, Universidade Federal do Rio Grande do Sul]. <https://lume.ufrgs.br/handle/10183/12416>
- Fundo Nacional de Desenvolvimento da Educação. (2023a). Dados da agricultura familiar: Aquisições da agricultura familiar no período de 2011 a 2019. <https://www.gov.br/fnde/pt-br/aceso-a-informacao/acoes-e-programas/programas/pnae/consultas/pnae-dados-da-agricultura-familiar>



- Fundo Nacional de Desenvolvimento da Educação. (2023b). Sobre o PNAE. <https://www.gov.br/fnde/pt-br/aceso-a-informacao/acoes-e-programas/programas/pnae/historico>
- Instituto Brasileiro de Geografia e Estatística. (2021). Estimativas de população enviadas ao TCU. <https://www.ibge.gov.br/estatisticas/sociais/populacao/9103-estimativas-de-populacao.html?t=resultados>
- Kumar, V., Leone, R. P., Aaker, D. A., & Day, G. S. (2018). Marketing research (3rd ed.). John Wiley & Sons, Inc.
- Lofland, J. (1974). Styles of reporting qualitative field research. *The American Sociologist*, 9(3), 101–111. <https://www.jstor.org/stable/27702128>
- Lofland, J., & Lofland, L. H. (1995). *Analyzing social settings: A guide to qualitative observation and analysis* (3rd ed.). Wadsworth.
- Marques, A. B. G. M., & Triches, R. M. (2022). Aquisição de alimentos orgânicos pelo Programa Nacional de Alimentação Escolar no Paraná. *Desenvolvimento e Meio Ambiente*, 60, 502–520. <http://dx.doi.org/10.5380/dma.v60i0.79120>
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass Inc., Publishers.
- Neto, H. B., & Bezzi, M. L. (2008). Regiões culturais: A construção de identidades culturais no Rio Grande do Sul e sua manifestação na paisagem gaúcha. *Sociedade & Natureza*, 20(2), 135–155. <https://doi.org/10.1590/S1982-45132008000200009>
- Peixinho, A. M. L. (2013). A trajetória do Programa Nacional de Alimentação Escolar no período de 2003–2010: Relato do gestor nacional. *Ciência & Saúde Coletiva*, 18, 909–916. <https://doi.org/10.1590/S1413-81232013000400002>
- Prefeitura Municipal de Rio Pardo. (2022). Dados do município. <https://www.riopardo.rs.gov.br/portal/servicos/1003/dados-do-municipio/>
- Prefeitura Municipal de Santa Maria. (2021). Documentos. <https://www.santamaria.rs.gov.br/documentos>
- Prefeitura Municipal de São Gabriel. (2022). Economia. <https://www.saogabriel.rs.gov.br/pagina/economia>
- Sampieri, R. H., Collado, C. F., & Lucio, M. P. B. (2013). *Metodologia de pesquisa* (5ª ed.). Penso.
- Silva, A. C. (1995). De Vargas a Itamar: Políticas e programas de alimentação e nutrição. *Estudos Avançados*, 9(23), 87–107. <https://doi.org/10.1590/S0103-40141995000100007>
- Silva, E. A. (2020). Teorias de aprendizagens e a sustentabilidade no Programa Nacional de Alimentação Escolar (PNAE): Caso do município de Porto Velho/RO [Dissertação de



mestrado, Universidade Federal de Rondônia].  
<https://ri.unir.br/jspui/handle/123456789/3384>

- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2022). PNAE (National School Feeding Program) and its events of expansive learnings at municipal level. *World*, 3(1), 86–111. <https://doi.org/10.3390/world3010005>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2023a). The PNAE (National School Feeding Program) activity system and its mediations. *Frontiers in Environmental Science*, 10, 1–17. <https://doi.org/10.3389/fenvs.2022.981932>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2023b). National School Feeding Program (PNAE): A public policy that promotes a learning framework and a more sustainable food system in Rio Grande do Sul, Brazil. *Foods*, 12, 1–24. <https://doi.org/10.3390/foods12193622>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2024a). Complex governance network analysis between Brazilian public policies. *Revista de Gestão Social e Ambiental*, 18(2), e07843. <https://doi.org/10.24857/rgsa.v18n2-196>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2024b). Exploring value propositions and service innovation: The outsourcing of the National School Feeding Program. *Revista Caderno Pedagógico*, 21(10), e9578. <https://doi.org/10.54033/cadpedv21n10-270>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2024c). The leadership role of PNAE managers in extreme crisis contexts. *Aracê*, 6(2), 926–943. <https://doi.org/10.56238/arev6n2-027>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2024d). Políticas públicas de segurança alimentar e Quilombolas: Uma discussão de território, governança e economia política. *Revista GeoUECE*, 13(25), 1–25. <https://doi.org/10.52521/geouece.v13i25.12569>
- Silva, E. A., Pedrozo, E. A., & Silva, T. N. (2025). PNAE and integrative policies in Boa Vista, Roraima: Levels of learning, development, and sustainability. In W. Leal Filho, L. Viera Trevisan, G. B. Costa, & I. B. d. Lima (Eds.), *Amazon 2030 - Sustainability issues in the world's largest rainforest region (World Sustainability Series)*. Springer. [https://doi.org/10.1007/978-3-031-81465-5\\_20](https://doi.org/10.1007/978-3-031-81465-5_20)
- Spinelli, M. A. S., & Canesqui, A. M. (2002). O programa de alimentação escolar no estado do Mato Grosso: Da centralização à descentralização (1979–1995). *Revista de Nutrição*, 15, 105–117. <https://doi.org/10.1590/S1415-52732002000100011>
- Stake, R. E. (2011). Pesquisa qualitativa: Estudando como as coisas funcionam. *Penso*.
- Triches, R. M., & Schneider, S. (2010). Alimentação escolar e agricultura familiar: Reconectando o consumo à produção. *Saúde e Sociedade*, 19(4), 933–945. <https://www.scielo.br/j/sausoc/a/WFcGDRjzXjXb67DWX3gKHDQ/?format=pdf&lang=pt>
- Triches, R. M., Beccarin, J. G., Figueredo, O. A. T., Führ, A. L., Mossmann, M. P., Silva, D. B. P. da, Heckler, D., & Teo, C. R. P. A. (2018). Dificuldades e recursos de superação mobilizados por atores sociais na aquisição de produtos da agricultura familiar para a alimentação escolar nos estados de São Paulo, Paraná, Santa Catarina e Rio Grande



do Sul. In J. Perez-Cassarino, R. M. Triches, J. G. Baccarin, & C. R. P. A. Teo (Orgs.), *Abastecimento alimentar: Redes alternativas e mercados institucionais* (pp. 97–111). Ed. UFFS; UNICV.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68, 1–17. <https://doi.org/10.1509/jmkg.68.1.1.24036>

Troian, A., Troian, A., Oliveira, S. V., & Pereira, J. C. (2020). Desempenho dos municípios do Rio Grande do Sul na execução dos recursos do PNAE com a agricultura familiar. *Revista de Economia e Sociologia Rural*, 58(3). <https://doi.org/10.1590/1806-9479.2020.204558>

Vargo, S. L., & Morgan, F. W. (2005). Services in society and academic thought: An historical analysis. *Journal of Macromarketing*, 25(1), 42–53. <https://doi.org/10.1177/0276146705275294>

Vargo, S. L., & Lusch, R. F. (2006). Historical perspectives on service-dominant logic. In R. F. Lusch & S. L. Vargo (Eds.), *The service-dominant logic of marketing: Dialog, debate and directions* (pp. 29–42). M.E. Sharpe Inc.

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: An extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*. <https://doi.org/10.1007/s11747-015-0456-3>

Vargo, S. L., & Lusch, R. F. (2017). Service-dominant logic 2025. *International Journal of Research in Marketing*, 34, 46–67. <https://doi.org/10.1016/j.ijresmar.2016.11.001>

Yin, R. K. (2018). *Case study research and applications: Design methods* (6th ed.). Cosmos Corporation – SAGE.

