ARTIGO ORIGINAL

Portal Cate: technology and public policy for professional qualification and income generation

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ABSTRACT

This article presents the experience of creating the Portal Cate (Center for Support to Work and Entrepreneurship), a public initiative aimed at promoting professional qualification and income generation for residents of the city of São Paulo. The article aims to detail the strategy of conception and development of a platform that integrates and enhances an economic development policy, serving as a reference for other municipalities. The theoretical foundations address issues related to public policies and digital technologies. The experiential report was the chosen method to present the work conducted, and its results demonstrate the effectiveness of the Portal in the fronts it set out to achieve, integrating with public policies for productive inclusion and potentially contributing for other municipalities to leverage this experience in their cities, highlighting the constant need for monitoring and updates to meet demands.

Keywords: Digital technologies. Economic development. Employment and income. Entrepreneurship.

Portal Cate: tecnologia e política pública para qualificação profissional e geração de renda

RESUMO

Este artigo apresenta a experiência da criação do portal do Centro de Apoio ao Trabalho e Empreendedorismo (Portal Cate), uma iniciativa do poder público para a promoção de qualificação profissional e geração de renda para munícipes de São Paulo. O artigo tem como objetivo detalhar a estratégia de concepção e desenvolvimento de uma plataforma que integra e potencializa políticas de

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desenvolvimento econômico, possibilitando uma referência para outros municípios. Os fundamentos teóricos abordam questões sobre políticas públicas e tecnologias digitais. O relato de experiência foi o método escolhido para apresentar o trabalho realizado, cujos resultados demonstram a eficácia do portal quanto a seus propósitos iniciais no contexto de integração à política pública de inclusão produtiva, o que evidencia seu potencial de contribuição para outros municípios interessados em implantar ações semelhantes, desde que aplicados constante acompanhamento e atualizações para o atendimento das demandas locais.

Palavras-chave: Desenvolvimento econômico. Empreendedorismo. Tecnologias digitais. Trabalho e renda.

Portal Cate: tecnología y política pública para calificación profesional y generación de ingresos

RESUMEN

Este artículo presenta la experiencia de la creación del portal del Centro de Apoyo al Trabajo y Emprendimiento (Portal Cate), una iniciativa del poder público para la promoción de la calificación profesional y la generación de ingresos para los ciudadanos de São Paulo. El artículo tiene como objetivo detallar la estrategia de concepción y desarrollo de una plataforma que integra y potencializa la política de desarrollo económico, posibilitando una referencia para otros municipios. Los fundamentos teóricos abordan cuestiones sobre políticas públicas y tecnologías digitales. El relato de experiencia fue el método elegido para presentar el trabajo realizado, cuyos resultados demuestran la eficacia del portal en cuanto a sus propósitos iniciales en el contexto de integración a la política pública de inclusión productiva, lo que evidencia su potencial de contribución para otros municipios interesados en implantar acciones similares, siempre que se apliquen seguimiento y actualizaciones constantes para atender las demandas locales.

Palabras clave: Desarrollo económico. Emprendimiento. Tecnologías digitales. Trabajo e ingresos.

1. Introduction

According to the 2023 Talent Shortage Survey – Brazil (Manpower Group, 2023), the number of employers reporting a lack of qualified professionals in the national market is above the global average, reaching over 80% that year. In the city of São Paulo, the shortage of skilled labor is similar to the national figure, with 79% of employers reporting this shortage in 2023.

These findings are corroborated by the São Paulo Labor Observatory (2022b) in a study published by the Municipal Secretariat of Economic Development and Labor of São Paulo (SMDET)

and the Inter-Union Department of Statistics and Socioeconomic Studies (Dieese). The study indicates that the municipality was the administrative unit that offered the least professional qualification from 2019 to 2021 (Figure 1).

Figure 1 – Professional Education by Administrative Dependency in São Paulo

Regular Professional, according to administrative dependency.

Municipality of São Paulo, 2019 to 2021
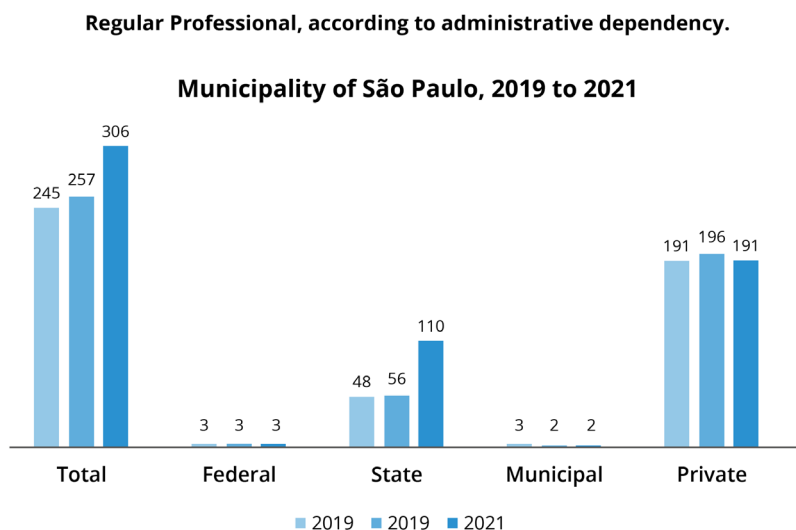
Source: Inep, School Census.
Prepared by: DIEESE.

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Source: São Paulo Labor Observatory (2022b, p. 7).

On the other hand, unemployment rates are also high. According to a survey by the State Data Analysis System Foundation (Seade), unemployment in the city reached 12.8% in December 2019 (São Paulo, 2020).

To address this situation, the São Paulo City Hall, with technical support from the Carlos Alberto Vanzolini Foundation (FCAV), an institution with significant experience in the fields of Education and Labor, began implementing a digital platform to address the issues identified.

The Support Center for Work and Entrepreneurship Portal (Portal Cate), developed by SMDET with the support of FCAV, is a content platform focused on work and income, aggregating various free initiatives in areas such as professional qualification, job vacancies, entrepreneurship promotion, worker support services, and assistance with social programs for vulnerable populations. It centralizes information on professional qualification, income generation, and employment, facilitating access for citizens to these types of initiatives in São Paulo's capital. This portal is part of a public policy initiative for economic development that, through intersectoral strategies, integrates different work and income policies and serves as a space that offers various opportunities based on the interests and needs of citizens.

This article presents the conception of Portal Cate through an experiential account, aiming to document a strategy that can be adopted by other municipalities in integrating income generation

policies. The analysis presented here is based on specific knowledge, exploring the connection between direct experiences and the theoretical-methodological framework to examine the implementation of public policies on employability and income generation mediated by technology.

The following sections introduce the concepts of public policy (PP) and digital technology, followed by a description of the composition of the FCAV team mobilized for the project, the methodologies and technologies employed in Portal Cate, and the strategies adopted for content production and the development of new features. Finally, some of the results of Portal Cate are outlined, and an analysis is provided on how these outcomes meet the objectives proposed for the initiative.

2. Theoretical Framework

2.1. Public Policy Formulation

The city of São Paulo exhibits a high demand for skilled labor, which, in turn, necessitates public sector actions to support individuals' entry into the job market, enhance employability, and reduce social inequalities. To address this demand, the Support Center for Work and Entrepreneurship (Cate) was established as a municipal policy.

The concept of public policy (PP) is highly plural and has undergone a dense historical evolution, during which scholars have proposed various definitions. Souza, noting that "there is neither a single nor a best definition of what constitutes public policy" (Souza, 2018, p. 13), lists several definitions, three of which are particularly relevant for the purposes of this article: a field of study that evaluates governments considering major public issues; a set of governmental actions aimed at achieving specific outcomes; and a collection of direct or delegated governmental activities impacting citizens' lives.

A public policy is oriented towards solving public problems or improving social welfare (Dias & Matos, 2017) and should establish strategies and procedures appropriate to a specific need or problem in a city or region, through contingent responses. What succeeds in one situation or place may not achieve the same success in a different context or location.

The 2006 report by the Inter-American Development Bank (IDB; David Rockefeller Center for Latin American Studies, 2007) examines six key aspects necessary for shaping public policies and ensuring their quality: stability; adaptability; coherence and coordination; quality of implementation and effective application; consideration of the public interest; and efficiency.

Dias and Matos (2017) elaborate on these aspects as follows:

- Stability: Changes should only occur to overcome encountered difficulties.

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- Adaptability: There must be adaptation and adjustments to circumstances in the pursuit of better results.

- Coherence and Coordination: Participants in the formulation and implementation must act in a coherent and coordinated manner.

- Quality of Implementation and Effective Application: There should be adequate training for the technical staff.

- Consideration of the Public Interest: The public policy should promote general well-being as a public good, rather than being restricted to private benefits.

- Efficiency: There should be high social returns corresponding to the allocation of public resources.

These authors argue that the complexities of modern societies necessitate new areas of public policy that address diverse demands and social needs, such as environmental issues, tourism, actions targeted at the elderly, and tax policy. They suggest that public policies can be categorized based on their nature according to decision-making arenas, objectives, and scope of actions.

According to the Ministry of Labor and Employment (MTE), job creation and income growth can be achieved through policies that intersect the labor and educational domains (Brazil, 2007). Such policies should guide an inclusive development project aimed at distributing income and mitigating regional inequalities, which requires integrated and cross-cutting economic development actions.

Silva (2020) introduces the term "productive inclusion" when discussing programs specifically targeted at individuals in conditions of social vulnerability. These programs create opportunities for employment by providing services such as basic educational training, technical and vocational skills development, support for microenterprises, labor mediation services, and even job creation.

In this context, initial or continuing education, whether formal or informal, plays a crucial role in personal fulfillment and professional career development, particularly for certain social groups, by preparing individuals for the workforce.

The integration of innovative technologies in the public sector streamlines processes, enhances service delivery, and strengthens citizen participation, promoting equity through precise analysis of population needs. Pischetola (2015) argues that exposure to specific technologies can trigger processes of growth and innovation, highlighting the strategic importance of technological adaptation in the public sector to achieve more effective, transparent, and responsive governments.

It is important to note that the study presented in this article defines the scope of conceptual understanding. It does not analyze the public policy that led to the implementation and evaluation of Portal Cate but rather reports on the experience of its implementation and monitoring, including the presentation and analysis of results.

2.2. Digital Technology

Technology, a tool that expands human capabilities, can be continuously adapted and contribute to societal development. According to Mattos, technology should be seen "as an extension of the very self that uses it in an increasingly personalized manner" and "only through its practical use can it provide new forms of communication, potentially driving a social transformation that may require new technological development" (Mattos, 2012, pp. 33-34, 36).

Anjos and Silva (2018) argue that Information and Communication Technologies (ICT) aim to meet individual and social information needs. They clarify that Digital Information and Communication Technology (DICT), a more recent term in the field of digital technologies, is used to refer both to technologies connected to networks and to new technologies formed by the integration of preexisting digital technologies.

Digital culture emerges from the expansion of the social use of Digital Information and Communication Technologies (DICT), manifested through various mobile devices connected to wireless internet. The second decade of the 21st century has been marked by the use of these devices across different contexts and the resulting social changes that "dissolve the boundaries between virtual and physical space, creating a hybrid space of connections" (Almeida, 2018, p. 8). These changes call for participation and collaboration, influencing culture and leading to the rise of digital culture.

With the rapid advancement of technology, educational and pedagogical processes have been impacted, leading to the adoption of new modalities such as Distance Education (EaD). The Portal Cate, the focus of this experiential account, utilizes Digital Information and Communication Technologies (DICT) to democratize access to professional qualification. Before detailing the experience with Portal Cate, it is important to highlight its educational interface.

Distance education is the cornerstone of the platform, offering flexibility and autonomy to learners. They can study anytime and anywhere, democratizing access to knowledge. This approach enhances workforce qualifications and drives economic and social development. Innovative digital resources facilitate teaching and learning processes, promoting digital culture and the continuous and meaningful construction of knowledge.

According to Belloni (2005), Distance Education (EaD) is expected to become an increasingly regular and essential component of educational systems, not only to meet specific demands or groups but also to play significant roles, particularly in post-secondary education. This includes adult education, encompassing regular higher education and the substantial and diverse demand for continuing education in informal settings, driven by the rapid obsolescence of technology and knowledge. The discussion of using DICT necessitates addressing a very serious issue: digital exclusion and its repercussions in the municipality of São Paulo. Fantin and Girardello (2009) emphasize the need to ensure the democratization of access to digital means as a way to expand participation across various population sectors and overcome discrimination and domination. They

highlight the importance of supporting "new forms of appropriation of social practices of reading and writing, primarily facilitated by access to digital culture" (Fantin & Girardello, 2009, p. 79).

> Examining digital inclusion in so-called peripheral countries requires attention to cultural manifestations that exist outside cyberspace. This absence should not necessarily be viewed as backwardness, symbolic poverty, or incompetence, but rather as a valuable and eloquent difference, potentially a space for critical formation. It also necessitates attention to public policies for educator training, as well as to special programs in education and culture (Fantin & Girardello, 2009, p. 72).

The democratization of access, or the experience of digital culture, must transcend a technobureaucratic scenario and go beyond merely qualifying the largest number of people for the job market. Actions should address collective desires and needs, promote the decentralization of power, and encourage local, regional, and national autonomy. "True digital inclusion involves social, cultural, technological, and intellectual dimensions, aiming to foster a sense of belonging and ensure effective participation of individuals in culture" (Fantin & Girardello, 2009, p. 83).

3. Method: The Portal Cate as an Experience Report

According to Mussi, Flores, and Almeida (2021), an experience report establishes the connection between firsthand experience (the lived experience) and distant experience (the theoretical-methodological framework), resulting in a form of knowledge production focused on describing an intervention.

An experience report generates scientific knowledge by transforming an academic and/or professional experience into text. In this regard, it serves as a possibility for scientific narrative, representing a way of reading reality in the construction of knowledge (Daltro & Faria, 2019). "It refers to a theoretical-practical construction aimed at refining understanding of the experience itself, from the perspective of the researcher-subject within a specific cultural and historical context" (Daltro & Faria, 2019, p. 228).

In the pursuit of scientific validity, an experience report must adhere to the scientific standards of legitimacy and generalization that underpin theoretical knowledge in a given field, while integrating new meanings without losing its integrity. Regarding legitimacy, "the value of knowledge will be judged by its capacity to build upon the studied material, incorporating qualitative and critical aspects of theoretical constructs that are meaningful in relation to the studied reality" (Daltro & Faria, 2019, pp. 228-229).

Generalization as a parameter can be ensured by linking the various contexts involved in the reported experience (theoretical, historical, and temporal), as it explicitly connects the unique aspects presented in the report to broader social and historical contexts. In this article, the movement between the specific experience and the various contexts surrounding it is evident throughout the report.

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The theoretical framework underpinning the understanding of the experience with Portal Cate served to connect the report to the scientific field and reveal the perspective from which the authors are speaking. This process facilitated a dialogue between scientific knowledge and the insights gained from the experience.

The authors of this article were directly involved in all phases of the project, from initial planning to execution and analysis of results. All data presented were collected during the period in which they led the project at FCAV. Such active participation and complete immersion allowed for effective management and a detailed view of each stage of the process, ensuring the accuracy and relevance of the reported information.

The theoretical framework supporting the experience with Portal Cate aimed to connect the report to the scientific field and reveal the authors' perspective, allowing for a dialogue between scientific knowledge and that developed through practice. The authors of this article were directly involved in all phases of the project, from initial planning to execution and analysis of results, which enabled a detailed understanding of each stage. The data presented were collected during the period when the authors were leading the project at FCAV, ensuring the accuracy and relevance of the information.

This report outlines the history of the portal's conception and development, based on meeting minutes from December 2018 to November 2019. Additionally, it analyzes the main data and results of the portal from December 2019 to December 2023, drawn from reports of the Moodle Virtual Learning Environment (AVA), the registration database, and Google Analytics.

4. Methodology for the Design and Development of Portal Cate

4.1. Definition of Scope

For this project, FCAV assembled a multidisciplinary team comprising professionals in Management, Information Technology (IT), Instructional Design, Audiovisual, and Editorial Production, including the authors of this article. This diverse team was essential for addressing the complex challenges inherent in public policy. Management provided strategic vision, IT offered innovative technological solutions, Instructional Design contributed to effective communication, Audiovisual delivered engaging means of information dissemination, and Editorial Production ensured the quality and accessibility of documentation. The synergy among these areas resulted in more holistic and adaptable approaches, leading to clearer, more efficient, inclusive, and society-aligned outcomes.

It was considered essential to have a team of diverse professionals to fully meet the project's needs. According to Behar et al. (2009), interdisciplinarity is characterized by the interaction and self-regulation of specialists in the production of scientific knowledge, highlighting conflicts and imbalances between divergent conceptions. Thus:

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> For a group to effectively pursue its common objective, it is necessary for members to understand each other's perspectives and, even if they do not agree, to argue and integrate the different contributions, elevating them to a new level. Within this framework, individual and collective functions mutually reinforce each other in support of a common logic and balanced thinking, and should not be viewed as a dichotomous relationship (Behar et al., 2009, p. 126-127).

In June 2019, during the development of the portal with respect to navigation and content production, the premise was adopted that it should address various user demands, including: qualification, inspiration and tips, entrepreneurship training, and job vacancies. Additionally, the importance of valuing socio-emotional skills was recognized, as these skills are of higher significance in Brazil compared to the global average (Refkalefsky, 2019).

Another key factor identified was the portal's ability to enable users to find governmental initiatives supporting income generation. Finally, it was determined that the portal should be prototyped in development waves to ensure validation with the target audience and to allow for adjustments, improvements, and new developments.

In defining the target audience for Portal Cate, priority was given to segments of the population facing difficulties in entering the job market—individuals with up to a high school education, Black individuals, and youth, who represent a significant portion of the unemployed population according to a study by the São Paulo-SP Labor Observatory (2022a). Additionally, considerable emphasis was placed on the female population. The same study highlights that while the participation rate of women in the labor market in São Paulo is higher than in the state and the country, it remains lower than that of men, with a gap of 18.5 percentage points observed in the third quarter of 2020.

Furthermore, it is important to note that SMDET operates from the perspective of the concept of productive inclusion, which was taken into account in the development of Portal Cate as a public policy. According to Silva (2020), productive inclusion programs primarily aim to serve individuals of working age who are in situations of social vulnerability, providing services such as basic education, technical and professional training, support for microenterprises, facilitation of access to the job market, and even the creation of direct and indirect jobs. Additionally, "the pursuit of inclusion through work is based on the understanding that labor activity is the main driver for overcoming poverty and a decisive factor in reducing inequalities" (Silva, 2020, p. 15).

4.2 Establishment of Format

To address the various needs of citizens, Portal Cate was organized into four sections: "Courses," "Tips and Inspirations," "Your Business" (entrepreneurship guidance), and "Job Vacancies" (Figure 2). This structure is designed to align with different stages of the user's journey: when they set a professional goal ("get inspired"), when they acquire qualifications to achieve that goal, and when they apply the knowledge gained, either through entrepreneurship or formal employment.

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Figure 2 – Portal Cate (Homepage)
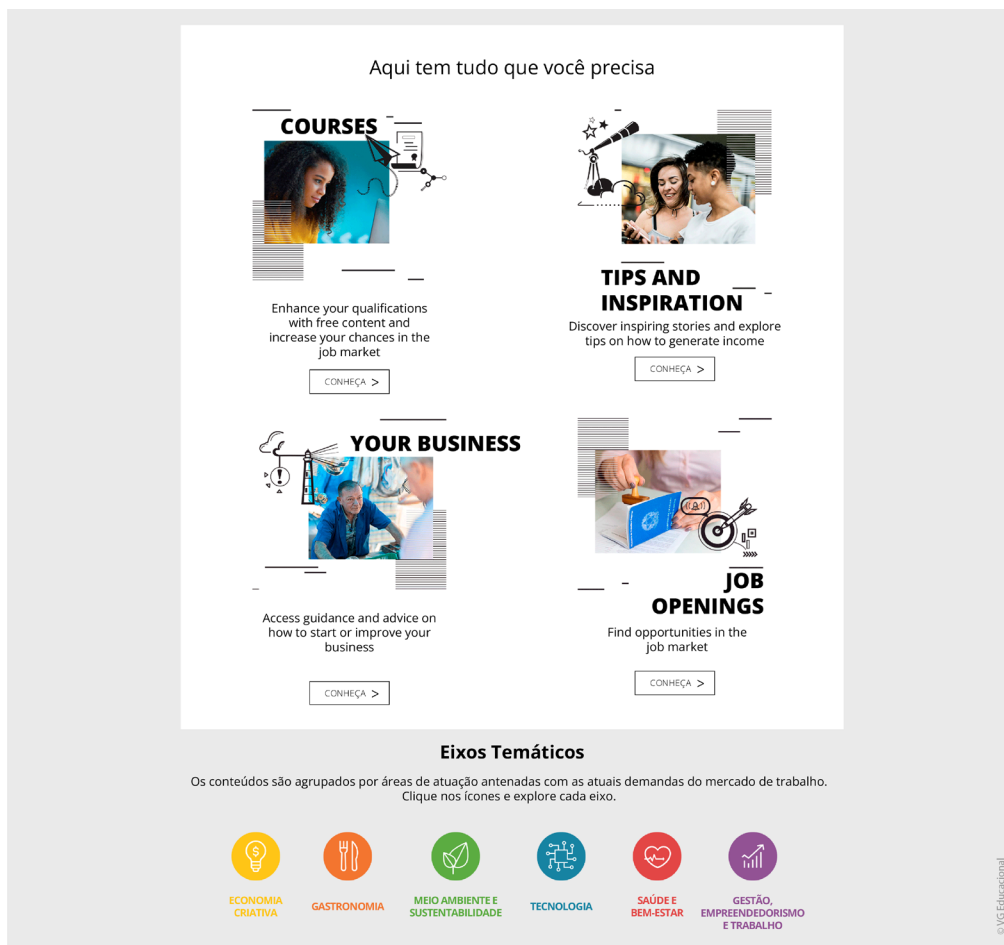
Source: Cate, 2024.

During the design and conception of Portal Cate, developed by FCAV and SMDET, several premises were considered. The first was to divide all content into sectors related to occupations with the highest demand in the city of São Paulo and the greatest potential for income generation: Health and Well-being; Management, Entrepreneurship, and Work; Environment and Sustainability; Creative Economy; Technology; and Gastronomy. According to a report by the São Paulo-SP Labor Observatory (2023), which tracks the temporal variation in job vacancies across different sectors, these areas have a significant number of formal employment opportunities in the municipality, and the rate of informality has been decreasing in recent years. Additionally, these sectors have the potential to generate income through entrepreneurship, which serves as an income-generating alternative for the unemployed population. Therefore, the qualification of this group should also be a focus of public policy, aiming to ensure productive inclusion and reduce inequalities.

4.2.1 "Courses" Section

All courses available on Portal Cate (Figure 3) are free and have either been curated or newly produced by FCAV. By the end of 2023, the portal featured over 130 courses on various topics related to the job market and income generation. Of these, 39 courses were developed entirely

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by FCAV, which took into account the specific needs of the portal's audience and labor market demands.

The selection of course topics is based on the previously mentioned sectors and considers the needs of SMDET's programs, as well as engagement and interest in the content published. The portal included 13 in-person courses, 55 free courses offered by other platforms and institutions (redirecting users to these channels), and 70 courses available on the Portal Cate's Virtual Learning Environment (AVA). These 70 courses include offerings from SMDET and 26 partner institutions, such as Microsoft, the Center for Integration of Business and School (CIEE), and the Paulistana Foundation for Education, Technology, and Culture.

Figure 3 – "Courses" Section of Portal Cate
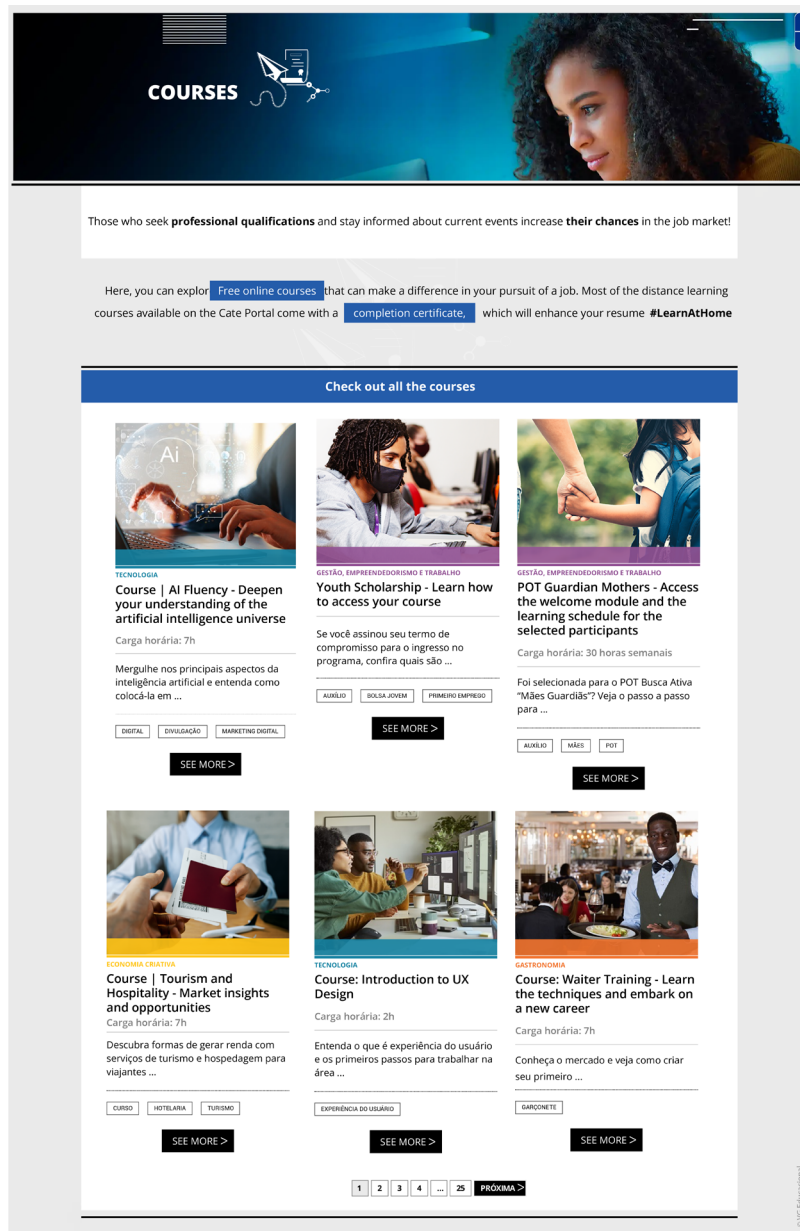
Source: Cate, 2024.

The courses produced by FCAV for Portal Cate are structured as Massive Open Online Courses (MOOCs), which, as the name suggests, are open, freely accessible, and designed to accommodate a large number of participants. They are asynchronous and allow for scalability. However, as Arenas et al. (2017-2018) highlight, the massiveness of these courses is more related to their open nature, with the large number of students being a consequence of this openness rather than an initial goal. Additionally, the fact that these courses are free and of short duration further enhances accessibility.

The courses developed for Portal Cate include a variety of educational resources, such as video lectures, digital texts, videos of different types (animations, animated infographics, etc.), audio recordings, and digital learning objects, among others. Defining the most suitable resources for the content and learning objectives is a crucial part of Instructional Design (Barreiro, 2016), which involves planning the courses from the raw content produced by subject matter experts. Once the types of resources are determined, they are carefully constructed with design and layout aligned with the visual identity. Courses with more empirical content, such as those on culinary arts or beauty and aesthetics, often use "tutorial" videos to demonstrate step-by-step practices. In contrast, courses with a more theoretical focus, such as those on cooperativism and entrepreneurship, include testimonials and concepts presented through images, podcasts, and animations.

A more complex topic, for example, is generally addressed in a video lecture of up to seven minutes with a specialist, as the combination of visual elements with the specialist's expertise can help the learner better understand the content, with ICTs being powerful tools in this process. Anjos and Silva (2018) emphasize that the use of these technologies as semiotic instruments for learning not only broadens comprehension possibilities but also promotes modification, expansion, and externalization of various cognitive functions, such as memory, perception, imagination, and reasoning. In this sense, the combination of visual elements with specialized guidance can enhance the assimilation and deepening of knowledge by the learner.

A second premise guiding the instructional design choices for the courses created for the Portal Cate is the expansion of learners' cultural capital and repertoire. The courses present content that contextualizes specific learning objectives within a broader context – for example, a course that specifically teaches the cutting and sewing of pants also covers the entire fashion production chain and different ways to enter this market.

Users of the Portal Cate can follow a path through different courses, deepening their knowledge according to their interests and professional goals, as there are courses that complement and deepen specific knowledge. The portal supports the construction of this path by recommending additional content throughout each course and providing user recommendations based on their interests indicated during registration.

The courses do not have formal assessment and learning tools but instead include a satisfaction survey, which must be completed by the user regardless of their opinion, in order to receive their certificate. The survey is structured with: four multiple-choice questions, with scales from 0 to 5; two open-ended questions (optional); and one Net Promoter Score (NPS) question, where the user indicates how likely they are to recommend the content, using a scale from 0 to 10.

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4.2.2 Section "Tips and Inspirations"

The content for the "Tips and Inspirations" section (Figure 4) is produced in various formats (podcasts, inspirational videos, infographics, and texts), following the editorial line defined by FCAV based on SMDET guidelines. Through the analysis of labor market trends, relevant topics for the Portal Cate are identified, always considering the city's development axes. By the end of 2023, more than 200 pieces of content had been published, specifically created to meet the interests and needs of the target audience regarding job and income generation.

Figure 4 – "Tips and Inspirations" Section of the Portal Cate
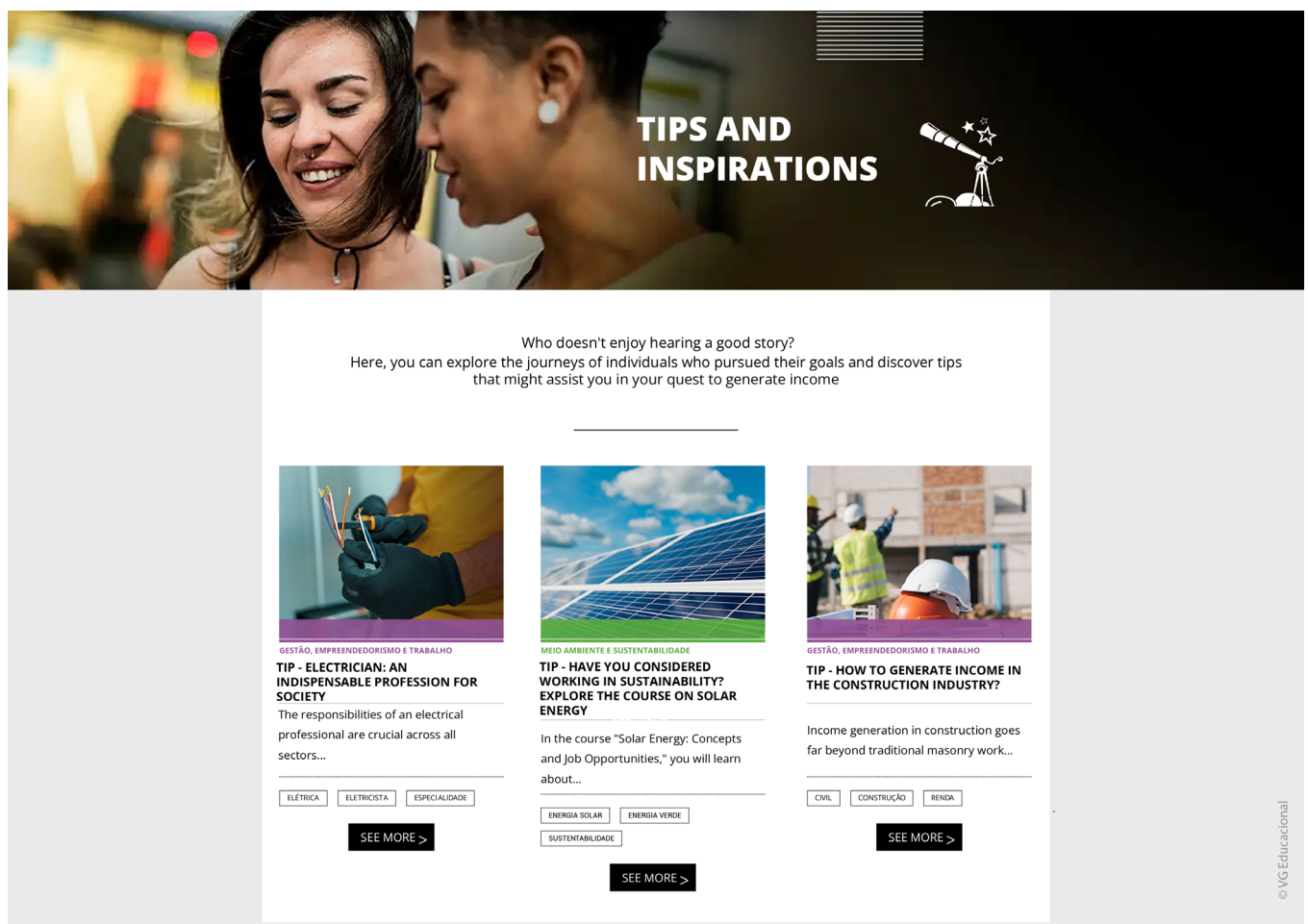
Source: Dicas [...], 2024.

Prioritizing interactivity, the Portal Cate allows users to rate publications using "stars." The average rating indicates the "user satisfaction" with the content. Additionally, there is a comments section used by the public and monitored by an institutional profile of the portal.

4.3 Technologies Used

The Portal Cate consists of an ecosystem of tools that are either fully developed or customized to reach its audience. It includes a WordPress[4] platform integrated with various tools, such as AVA (Moodle), a registration tool for in-person courses, and a job vacancy management tool. FCAV developed and maintains all these resources to support SMDET's efforts in job and income generation activities in the municipality of São Paulo.

To access this ecosystem, users must complete a single registration, as all applications are integrated through Single Sign-On (SSO)[5], a feature that enhances the user experience by allowing access to multiple platforms with a single authentication, reducing complexity and facilitating navigation.

To generate monitoring indicators for evaluating and improving the PP and to guide the production of new content for the Portal Cate, this registration requires personal data such as gender, education, work experience, age, nationality, average income, disabilities, race, interests related to the city's vocational axes, and personal identification data (CPF), which prevents the creation of multiple registrations by a single person. The identification data allows for accurate control of access quantities.

Additionally, to complete their registration, users must read and accept the Portal's Terms of Use and Privacy Policy. These documents emphasize that all provided data is handled confidentially and in full compliance with the General Data Protection Law (LGPD) and will be used solely for the formulation, improvement, and evaluation of the PP by the São Paulo City Hall.

In line with government regulations on accessibility, the Portal Cate provides audio descriptions for all images, both on WordPress and in the courses, as well as Brazilian Sign Language (Libras) and subtitles for video lectures and other videos. Additionally, guided by Recommendation 2.7[6] of the Electronic Government Accessibility Model – eMAG (Brazil, 2014), Portal Cate implements measures such as avoiding the automatic triggering of "moving" content, like banner carousels, ensuring that users with disabilities have control over these movements.

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4. *WordPress* é um *Content Management System* (CMS – sistema de gerenciamento de conteúdo), de código aberto, amplamente utilizado para criação e administração de *sites* e *blogs*. Ele é construído em linguagem PHP e utiliza um banco de dados, geralmente MySQL, para armazenar informações.

5. SSO é uma técnica de autenticação que permite ao usuário acessar vários sistemas ou aplicativos com apenas um conjunto de credenciais de *login*. Em vez de exigir que o usuário memorize senhas diferentes para cada serviço, o SSO autentica o usuário uma vez e concede-lhe acesso automático a todos os sistemas interconectados.

6. Recomendação 2.7 – Assegurar o controle do usuário sobre as alterações temporais do conteúdo: "Conteúdos como *slideshows*, que 'se movem', rolagens, movimentações em geral ou animações não devem ser disparadas auto-maticamente sem o controle do usuário, mesmo em propagandas na página. Ao usuário deve ser repassado o contro-le sobre essas movimentações (quer seja por escolha de preferência de visualização da página, quer por outro método

The TIC Domicílios 2019 survey, conducted by the Regional Center for Studies on the Development of the Information Society under the auspices of UNESCO (Cetic, 2020), indicated that 71% of households in Brazil have internet access, a number that has been growing in recent years. The rate in São Paulo is higher than the national average: 77% in urban areas and 44% in rural areas. Given that a high percentage of these accesses occur via mobile devices, all content on the Portal Cate is designed to be responsive across all types of devices.

The Portal Cate also features a chatbot that answers questions and assists with searches, and a backup service for cases where users are not satisfied with the chatbot's responses. This service is provided by the FCAV team as part of the portal's maintenance, with interactions frequently analyzed and the results used to make improvements to the portal, such as streamlining the registration process, creating and highlighting important guidelines, and correcting any errors in the applications.

It is worth noting that a careful Search Engine Optimization (SEO) effort was undertaken, which involves practices and strategies used to optimize a website or other online content, including the use of keywords, tags, and structure, with the aim of increasing both the quantity and quality of organic traffic, that is, unpaid traffic a site receives through search results.

5. Results of the Portal Cate

Since its launch in December 2019, until the end of 2023, the Portal Cate had 2,843,394 accesses, 425,812 registered users, 498,073 enrollments, and 282,228 course certificates issued through the AVA (it should be noted that data on recommendations for partner courses are not included here).

These figures reveal that the Portal Cate achieves mass dissemination and penetration of relevant free content for the audience seeking employment and income in the city of São Paulo, which supports Pischetola's (2015) argument that the integration of innovative technologies radically transforms the dynamics of the public sector.

Considering that open and free courses (MOOCs) are known in Brazil for their high dropout rates, Canto Filho (2022) discusses whether one cause of this phenomenon might be the absence of a selection process prior to enrollment, which allows individuals without the necessary prerequisites to start and/or complete the course. However, on the Portal Cate, dropout rates are around 45%, significantly lower than those reported in the literature, which can reach up to 95% (Silva; Marques, 2015, apud Silva et al., 2021).

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qualquer acessível a usuário com deficiência). Além disso, o usuário deve ser capaz de parar e reiniciar conteúdos que se movem, sem exceção. É desejável que o usuário tenha também o controle da velocidade desses conteúdos" (Brasil, 2014).

Regarding the profile of the learners, information from the AVA reports of the Portal Cate indicates that, between 01/12/2019 and 31/12/2023, both among enrollees and among those certified, there was a predominance of women, unemployed individuals, Black and Brown people, aged 25 to 39 years, with a high school education (Figure 5). These data demonstrate that the portal is a successful experience in reaching its target audience.

Figure 5 – Profile of the certified audience in Portal Cate courses
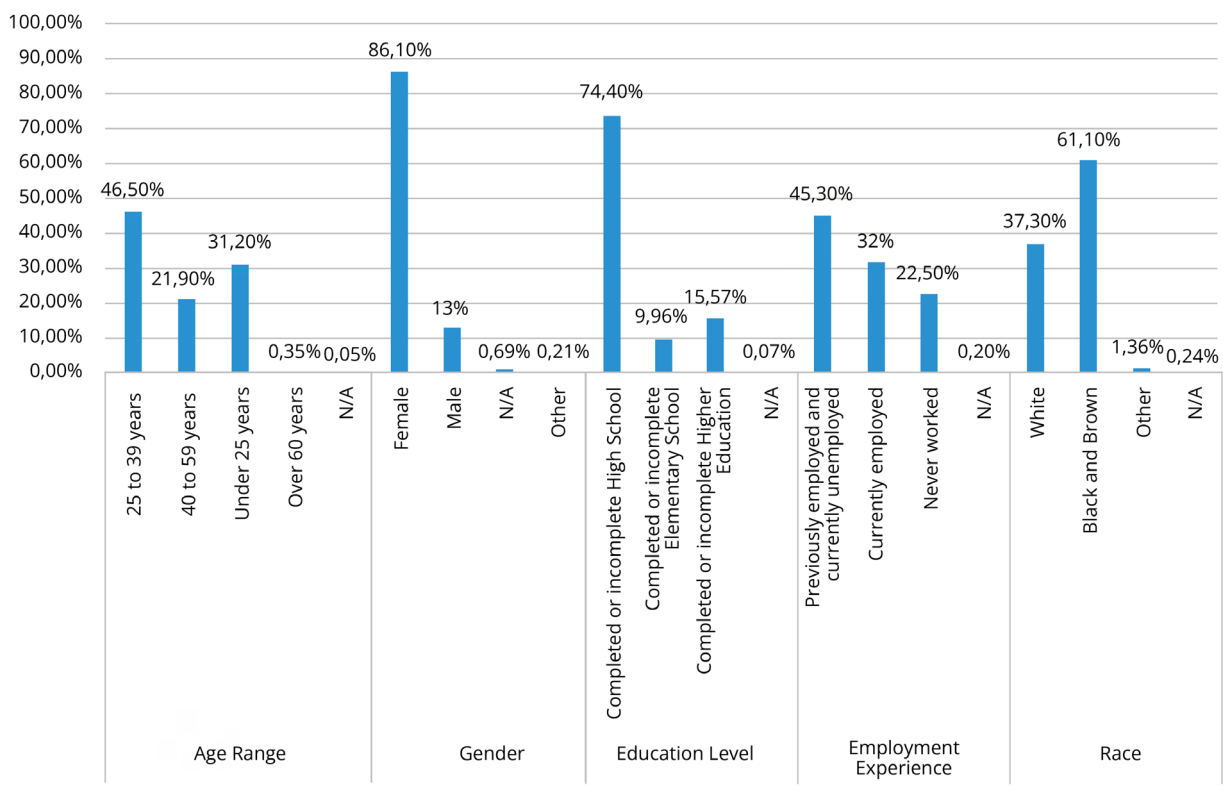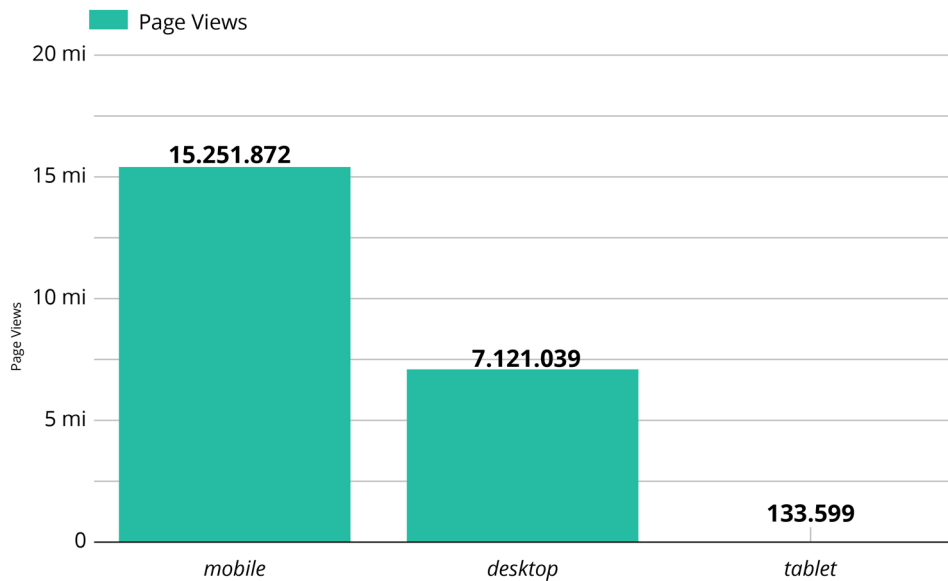

Source: Compiled by the authors with AVA data – Portal Cate, 2024.

Regarding portal access, most are made through mobile devices (Figure 6), which is consistent with the findings of the TIC Domicílios 2019 survey (Cetic, 2020) and reinforces the importance of responsiveness in the development of digital resources.

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Figure 6 – Portal Cate Access by Device

Page Views

	mobile	desktop	tablet
Page Views	15.251.872	7.121.039	133.599

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Source: Google Analytics – Portal Cate, 2024.

Based on the data presented above, it can be concluded that the Portal Cate effectively reaches its intended audience; however, this brings challenges. A program centered around a digital resource, such as the portal, has great potential for widespread reach, but access can be challenging for individuals with low digital literacy and/or those in social vulnerability, discouragement, or marginalization—precisely those who most need these governmental initiatives. As stated by Fantin and Girardello (2009), it is crucial to democratize access to digital means to promote the inclusion of various segments of society and thus ensure equitable access to the program.

Another important point is that, in addition to the low education levels of users, most of the content on Portal Cate consists of non-professional open courses. Therefore, greater integration between content is necessary to enable the construction of a knowledge path that provides learners with more comprehensive training in a specific area. This process should consider the context of the municipality of São Paulo, focusing on topics that align with the job market and citizens' interests. In this way, Portal Cate will be closer to the concept of media education as proposed by Fantin and Girardello (2009), moving beyond the understanding of online courses as mere access to content via the internet, and aligning with the collective desires and needs of the population.

6. Discussion

The experience report on the implementation and monitoring processes of the Portal Cate demonstrates that it functions as a social policy action (Dias; Matos, 2017), given that it exhibits characteristics of a specific policy aimed at increasing income and reducing unemployment, thus

incorporating elements of economic policy. This interdisciplinary nature (Calmon, 2016) arises from the social and economic aspects involved in the action.

The Cate represents a targeted program (Dias; Matos, 2017), as it is designed for a specific audience—those seeking employment or an increase in work-related income. Due to this characteristic, the definition of the target audience for Portal Cate prioritized segments of the population that face the greatest difficulties in entering the labor market. Regional particularities in terms of job availability were also considered.

These aspects show how the portal has remained appropriate for addressing regional needs by seeking solutions to specific problems faced by individuals in the community, an essential element of a program (Dias; Matos, 2017). At the same time, it establishes a connection between a personal issue, such as income and education, and a problem with specific contours in the city of São Paulo, thus representing a public issue that requires a well-defined program (Dias; Matos, 2017).

When the social problem is challenging and complex, such as unemployment, a single action is insufficient to achieve the desired goal—increasing the population's income. Therefore, it is necessary to maintain constant evaluation and improvement of the Portal Cate.

By utilizing technologies and addressing issues to meet the specific regional needs of the municipality and the population of São Paulo, Portal Cate stands out as a unique and innovative strategy, designed and dedicated to the city's demands. Thus, it represents an important tool for solving a public issue, a government action for public purposes (Dias; Matos, 2017). The technologies employed provide a clear contribution to social transformation and development through enhanced job qualifications and increased income opportunities for São Paulo residents.

Portal Cate benefits from the digital culture that expands the social use of ICTs. It leverages the potential for digital culture to permeate social relations, behavior, and the capacity of users seeking professional qualification and income generation (Anjos; Silva, 2018). The ICTs, which have multiplied access possibilities due to internet connectivity, have created a hybrid space within the portal that allows for the exploration of the dissolution of boundaries between virtual and physical spaces (Almeida, 2018).

The concern with the teaching and learning process focused on professional development was present throughout the design of the portal, aiming to provide continuous learning through the technologies available for communication and to foster digital culture by facilitating interaction between information and people, which are fundamental aspects of learning.

The following considerations address the six key aspects proposed by the 2006 IDB Report, as mentioned in this article, to examine programs, which should be capable of "improving well-being, being sustainable over time, and contributing to overall development" (IDB; David Rockefeller Center for Latin America Studies, 2007, p. 7).

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6.1 Stability

For the IDB, the stability of a program corresponds to the ability to change only when necessary to overcome difficulties. It can be stated that Portal Cate meets this criterion, demonstrating significant stability by remaining permanent and available to the public since 12/01/2019, that is, for over four years.

It is also noteworthy that the portal is continuously improved in overcoming difficulties and seeking better user service.

6.2 Adaptability

The criterion of adaptability, that is, the ability to adjust and adapt to implementation and maintenance circumstances, highlights points already discussed about Portal Cate throughout this article.

From the outset, data related to the regional specifics of the target audience and the municipality of São Paulo, as well as areas with significant growth in job opportunities and potential income generation, were considered. Adaptation and adjustments to circumstances have been present since the initial design of the portal, resulting in a strategy of creating development phases to ensure validations with the target audience and to make possible adjustments, improvements, and new developments.

In 2021, just over a year after its launch, ways were defined to expand Portal Cate beyond MOOC courses and to increase its integration with other SMDET programs. Through the cross-cutting integration of different actions, the aim was to build an inclusive development project to achieve the overall goal of generating employment and income in the city. In this context, FCAV developed a tool for enrolling in in-person courses and social programs integrated into Portal Cate, which facilitated the user registration process as their data is saved and can be reused for different actions within the same channel.

Additionally, it was necessary to enhance the job vacancies section, aiming not only for a better user experience but also for the improvement of the labor intermediation policy. This intervention enabled residents to view available job vacancies, upload their resumes, and apply for jobs that match their profiles. This functionality is based on a matching system between candidates and vacancies, which compares the user's resume information with the requirements listed for the job, identifies compatibilities across different criteria, and displays the jobs to the user in order of compatibility. On the other end, SMDET began using the same system to post job vacancies, manage applications, and make referrals.

The courses on Portal Cate have been included in the learning path of SMDET social programs focused on vulnerable and unemployed populations: the Bolsa Trabalho Program and the Operação Trabalho Program (POT). In these social programs aimed at professional qualification and productive

inclusion, beneficiaries can stay for six months to two years and use Portal Cate for qualification during this period. Users can also use the portal to search for jobs, be referred to selection processes through the job tool, and obtain information about starting businesses.

Other adjustments related to usability included structuring the courses into three modules (the first providing an overview of the course to help users decide based on their interests; the second offering specific vocational training; and the third providing information on where and how to search for jobs) and utilizing a service robot to answer user questions and assist with searches.

All adaptation and adjustment actions address learning and improvement needs and align with the strategy chosen by the technical team working on Portal Cate. When a bottleneck or area for improvement is identified, the most suitable tools and professionals are sought to address the issue, ensuring that the necessary knowledge and technologies meet the needs.

6.3 Coherence and Coordination

Using the criterion of coherence and coordination among actors in the formulation and implementation of programs, both the performance of SMDET and FCAV, as well as the target audience of Portal Cate, are evaluated. This is because, through the analysis of user feedback captured across all communication channels, such as the service robot, course satisfaction surveys, page comments, etc., areas for improvement and correction are identified, making residents indirect participants in the program's implementation process.

The strategic vision adopted aims to integrate distinct perspectives and skills, in line with the idea of interaction and self-regulation among experts from various fields to enrich the action. As a result, the multidisciplinary team was able to integrate perspectives and interests to overcome challenges in the portal's implementation. The coordinated action of this team enabled more holistic and adaptable approaches, allowing for the development of objective, efficient, inclusive activities that align with the needs of the target audience.

6.4 Quality of Implementation and Effective Application

Regarding the criterion of quality of implementation and effective application of the program in relation to the technical team's training, significant concern for the technical qualification of the professionals responsible for planning and implementing the necessary actions was demonstrated from the inception of Portal Cate. This concern is evidenced by the preliminary and interdisciplinary meetings and the composition of the multidisciplinary FCAV team responsible for the portal's implementation.

The qualified technical work performed by the FCAV team has resulted in a continuous process of sustaining Portal Cate, which has also benefited from cutting-edge technologies, such as SEO, used to improve organic traffic to its content. The use of keywords and tags corresponding to

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terms frequently searched by internet users, such as "free online courses," across various pages of the portal ensures its appearance in search results.

During the implementation of the portal, FCAV conducted various analyses and improvements related to user experience (UX) in navigation, digital inclusion for individuals with low literacy, accessibility resources for people with disabilities, and the review of language and communication strategies.

6.5 Consideration of Public Interest

Regarding the criterion of consideration of public interest, the central focus of Portal Cate is evident: to meet the needs of individuals seeking employment and increased income. To this end, the actions were based on the profile and demands of this target audience, always aiming to improve the program as a public good not restricted to private interests (BID; David Rockefeller Center for Latin America Studies, 2007).

In this perspective, the following stand out: the free access to courses and the portal; the diversity of courses; and the thematic areas based on public interest in the published promotional content.

The prioritization of population segments with greater difficulty in entering the labor market was based on educational level and gender characteristics. Courses were developed targeting young people and those with low educational attainment, with few or no prerequisites, and thematic areas were defined to represent occupations that are growing the most in São Paulo and therefore have the greatest potential for generating work and income. The portal's organization into four sections—"Courses," "Tips and Inspirations," "Your Business" (entrepreneurship guidance), and "Job Vacancies"—followed the same guidelines.

The expansion of public interest services is facilitated by the use of cutting-edge technologies—highlighting SSO, which improved navigation and the use of Portal Cate's tools, especially for users with low digital literacy—as well as elements implemented to comply with accessibility legislation: image audio descriptions (WordPress and courses), Brazilian Sign Language (Libras), and subtitles (videos).

Additionally, the ability to navigate Portal Cate through mobile devices has enabled greater democratization of access and increased reach.

By prioritizing the target audience's interests, the technical team adopted business rules that allow users to view previously accessed and saved content, personalizing navigation and respecting user interests and goals. In the same vein of personalization, the chatbot and support service are highlighted.

6.6 Efficiency

The efficiency criterion established by the BID emphasizes high social returns corresponding to the allocation of public resources. Two metrics of the return obtained by the Portal Cate are the number of participants and the course completion rate. There were 122,357 users enrolled in only the ten most popular courses on the portal, with 94,393 certificates issued. Women represented 86.1% of those certified; regarding educational attainment, 74.4% had a high school education (complete: 48.4%; incomplete: 26%).

For all courses offered, the certification rate was around 55%, indicating a significantly lower dropout rate compared to what is observed in the literature for such actions (Silva; Marques, 2015, apud Silva et al., 2021). The predominance of women, and among them, unemployed individuals who are Black or Brown, aged 25 to 39, and with a high school education, underscores the inclusive nature of the portal. This inclusivity is further highlighted by racial data, as 61.1% of those certified identified as Black or Brown.

Another efficiency-related metric concerning the portal's objectives is its outreach to the target audience: 45.3% of certified individuals had previously worked but were unemployed, and 32% were employed but seeking better preparation for work.

The possibilities generated by the job listing tool, launched in April 2023, are also noteworthy. This tool registered 196,788 resumes, representing nearly 50% of the users, and resulted in over 30,000 referrals to selection processes. A key factor contributing to the high returns achieved by the Portal Cate is the effective use of technology, while also acknowledging the critical role of the technical support team in the implementation and maintenance of the activities developed within this public policy.

7. Final Considerations

Considering the innovation and positive impact of Portal Cate within the context of public policies for economic development and professional qualification, the initiative has emerged as an integrative tool that enhances efforts to promote job creation and income generation. The strategic approach adopted in its design and development demonstrates attention to the diverse demands of users and the labor market, establishing an effective alignment between these two fundamental components of the initiative. The careful selection of technologies, attention to accessibility, and integration with other public policies reflect a genuine commitment to providing a comprehensive and efficient solution.

The design and development methodology provided a solid foundation for the creation of the portal. The emphasis on qualifying vulnerable groups, such as youth, Black individuals, and women, is crucial for addressing disparities in the labor market and supporting the personal and professional development of these populations through ongoing education. The inclusion of courses, tips, and job listings organized in a clear and intuitive manner reflects a concern to meet the specific needs

of diverse audiences.

The results of Portal Cate demonstrate its effectiveness and popularity, particularly among women, reinforcing gender inclusion in the labor market. Its online format, which offers distance learning courses, meets the demand for qualification among those who prefer this mode of education, as it allows for greater flexibility in their studies and adaptability in their routines. The high uptake of its job tool highlights the portal's significance. In addition to providing educational and employment resources, the portal integrates with public policies for productive inclusion.

Furthermore, Portal Cate offers a unique opportunity for continuous learning through its distance education resources. This format not only facilitates access to knowledge regardless of geographical barriers but also enables users to develop essential digital skills for the modern job market. By incorporating a variety of virtual educational resources, the portal enriches users' training, preparing them for contemporary challenges and significantly enhancing their chances of professional integration. The integration of monitoring tools and continuous feedback allows for a personalized learning experience, adapting to individual needs and fostering both professional and personal development. Thus, the range of training opportunities is expanded, and users' employability is enhanced, solidifying the portal as a relevant tool for economic and social development.

Other municipalities can draw on the experience of Portal Cate to foster economic development. By identifying demand, regional specifics, and population characteristics, it is possible to formulate and implement a public policy utilizing appropriate technologies and content to meet the city's needs. It is important to emphasize, however, that such a policy requires ongoing monitoring and support, as well as regular updates and maintenance of its resources, to remain effective and satisfactorily address local demands.

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