

Memory, industrial heritage and the textile workforce in South of Brazil: a statistical study

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Abstract. This article aims to present the textile industrial structure, by size, and the arrangement of the workforce with regard to schooling and gender in the Metropolitan Region of Porto Alegre, Brazil, from 1985 to 2021, through an study which seeks in the research documental the source of data, and descriptive statistics, the aid for their treatment. This search will approach the concepts of industrial heritage and cultural assets, conceptualising, in general terms, the theoretical definitions, relating them to the field of memory and its aspects, as well as presenting the analysis of the data originating from the methodological course carried out on this occasion.

Keywords. Industrial Heritage, Memory, Textile Industry, Workforce.

1. Introduction

This article originates from research on Work Memory and its relationship with Industrial Heritage within the Postgraduate Program in Social Memory and Cultural Assets at La Salle University in Canoas, Rio Grande do Sul, Brazil. In this text, we aim to connect the concepts of industrial heritage, cultural assets, and their relationship with the field of memory through the trajectories associated with work environments and places of production. By doing so, we intend to bridge the gap between industrial heritage and collective memory. Thus, the objective is to present the textile industry in the Metropolitan Region of Porto Alegre, located in Rio Grande do Sul, Brazil, from 1985 to 2021, focusing on its establishments and workforce. In the first part, we examine the size. Then, we search gender and education. To accomplish this, we rely on documentary research and descriptive statistics. We believe that understanding the textile sector can help shed light on individual and collective knowledge, as well as, the "ways of doing" linked to industrial structures that influence and generate memory and culture, extending beyond products and subsistence.

To organize the reflection, the text has four parts in addition to this introduction. Subsequently, we present in an articulated manner the concept of industrial heritage and cultural assets, as well as

their relationship with the field of memory, following the methodological path taken and the analysis of the data. Finally, there is a conclusion, followed by the bibliographical references.

2. Theoretical Review

2.1 Industrial Heritage, Cultural Asset and the Memory

Industrial heritage can be considered a new and multidisciplinary field of knowledge that had its broader debate in England between 1950 and 1960. According to Cordeiro [1], industrial heritage can extend to subjects such as factory architecture, company documentation, industrial products, and oral history. This concept evolved with the Nizhny Tagil Charter, which understands it as: "[...] the remnants of industrial culture possessing historical, technological, social, architectural, or scientific value. These remnants encompass buildings and machinery, workshops, factories, mines, processing and refining sites, warehouses and depots, production, transmission, and energy utilization centers, means of transportation, and all their structures and infrastructure, as well as the places where social activities related to industry took place, such as housing, places of worship or education" [2].

The Charter was approved on July 17, 2003, by delegates of the Conference of The International

Committee for the Conservation of the Industrial Heritage (TICCIH) in Russia. TICCIH is the global authority responsible for industrial heritage. UNESCO also approved the Nizhny Tagil Charter. The objective discussed at the conference by the delegates was to characterize industrial activities, whether tangible or not, as well as the importance of industrial heritage, which, when studied, reveals revisited history and memory, making them public knowledge.

In 2018, the Seville Charter updated the Nizhny Charter, where the concept of industrial heritage underwent a critical review, in line with the paradigm shifts of recent decades and the recognition of new knowledge regarding the maintenance, conservation, and management of industrial heritage, emphasizing the cultural and social aspects: *“El valor cultural de los testimonios materiales e inmateriales vinculados a las actividades productivas, [...] la creciente conciencia ciudadana por el mantenimiento y conservación del Patrimonio Industrial como parte esencial de la memoria colectiva. [...] La demanda expresada por colectivos ciudadanos para disponer de espacios donde poder expresar sus relaciones de memoria y sociabilidad”* [3].

Ferreira [4] asserts that industrial heritage refers to a place of memory where the remnants of activities (which often have little importance or even cease to exist) are present, going beyond just a workplace. On the other hand, Meneguello [5] states that industrial heritage is much more than “thinking about workspaces implies understanding all their material and immaterial dimensions”, recalling this work and concluding that “built or non-built memory can become industrial heritage” [5]. As for Brazilian legislation, the “ways of doing”, or in other words, the intangible assets of cultural heritage, were recognized by the state through Article 216 of the 1988 Constitution, which defined them as follows:

“The Brazilian cultural heritage consists of material and immaterial assets, taken individually or collectively, that bear reference to the identity, actions, and memory of the different groups that have contributed to the formation of Brazilian society, including: I - forms of expression; II - ways of creating, making, and living; III - scientific, artistic, and technological creations; IV - works, objects, documents, buildings, and other spaces intended for artistic and cultural expressions; V - urban complexes and sites of historical, landscape, artistic, archaeological, paleontological, ecological, and scientific value” [6].

In this sense, industrial heritage is also associated with productive activities, the producing ways that resulted from past industrialization, even when the material evidence disappears. Regarding assets related to productive activities, Kühl [7] states that “a historical-documentary and iconographic study, an analytical-descriptive and also comparative one,

is necessary to understand the typologies and transformation of various industrial parts”, and that “preserving the memory of work is essential”.

The concept of a cultural asset emerged after World War II. UNESCO conventionally established to obtain protection and incorporate into the scope of international law. According to Alexandrino [8], a cultural asset involves a specific interest that refers to the testimony of a culture, possessing an intangible support that either diminishes or adds value to the tangible heritage asset. Furthermore, the author comments that a cultural asset does not belong to anyone, has a public character, and is “intended for universal enjoyment.”

For Colombo [9], an intangible cultural asset is a value transmitted through experience, tradition, and practice, communicated visually or orally, representing “know-how” without external interference, and recalling the memories of a society.

Regarding the relationship between memory and industrial heritage, memory is valued through the built heritage within organizations, allowing the integration of knowledge beyond corporate boundaries and extending to society. Considering its interdisciplinary nature, memory permeates industrial techniques, affecting not only individuals but also the collective, the group, and the community, shaping the place where one lives through social and economic aspects, where identity and behavior are formed [10].

In this regard, the concept of corporate memory, or business memory, also emerges. Its objective is not only to reconstruct the institution’s past but to represent a reference point where people consider values and experiences, and they, in turn, become part of the environment, creating a connection and empathy with that institution across different times and contexts [11].

Another author who also addresses the concept of memory as heritage is Candau [12]. According to him, memory corresponds to an effort to safeguard, preserve, and valorize remnants, testimonies, and impressions, both in material and cultural aspects, responding to a social demand that seeks to recall the past. He believes traces are “finding the root causes, that is, the origin.”

From this, it is clear that we define memories among intangible and tangible factors — worker’s memories and company memories, respectively — and as tangible and intangible, where the former refers to machinery and technology, and the latter to “ways of doing”. Therefore, memory has a communicative nature relating to individuals’ recollections based on their personal experiences and defining spaces of belonging and identity that represent them, whether in the social or work environment [10]. This approach thus connects machinery and technology to the scale of organizations and “ways of doing” to education and gender to bring the topic closer to empirical

research.

3. Methodological Course and Data Analysis

As a way to respond to the objective of this article, which focuses on the textile industry in the Metropolitan Region of Porto Alegre from 1985 to 2021 in terms of its establishments and workforce, in the first instance, we shall expose the category of size, and in then, the categories of gender and education. Exploratory and descriptive research methods are employed, providing more information on the subject to assist in its research design and delineation [13]. Descriptive research characterizes a specific population or phenomenon and establishes relationships between variables and aspects of interest in the study [13].

For technical strategies, we consider documentary research, which involves a set of elements with the aim of organizing, in a different way from the original, the content of a document [14], transforming the primary document into an analytical one, and organizing it according to the research objectives [13].

To provide an overview of this study, the following data related to the size and formal labor market participation of the textile sector in the Metropolitan Region of Porto Alegre, as well as the profile of workers in this segment, in terms of gender and education, from 1985 to 2021, will be presented. The data for this study were extracted from the Labor Statistics Dissemination Program [15], which provides references from the Annual Social Information Report (RAIS).

The study is limited to the Metropolitan Region of Porto Alegre, which consists of 34 municipalities (Alvorada, Araricá, Arroio dos Ratos, Cachoeirinha, Campo Bom, Canoas, Capela de Santana, Charqueadas, Dois Irmãos, Eldorado do Sul, Estância Velha, Esteio, Glorinha, Gravataí, Guaíba, Igrejinha, Ivoti, Montenegro, Nova Hartz, Nova Santa Rita, Novo Hamburgo, Parobé, Portão, Porto Alegre, Rolante, Santo Antônio da Patrulha, São Jerônimo, São Leopoldo, São Sebastião do Caí, Sapiranga, Sapucaia do Sul, Taquara, Triunfo, and Viamão). Figure 1 displays the arrangement of these municipalities:

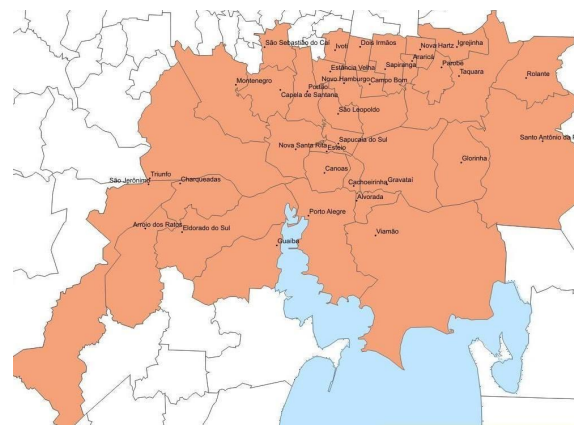


Fig. 1 - Arrangement of municipalities in the Metropolitan Region of Porto Alegre, Rio Grande do Sul, Brazil.

Initially, the aim is to present the size of industrial establishments according to the number of employees, following the Sebrae [16] classification: Micro company (ME) with up to 19 employees, Small Business (EPP) with 20 to 99 employees, Medium-sized Enterprise with 100 to 499 employees and Large Enterprises with 500 or more employees. Subsequently, the discussion revolves around how these associations behave in relation to education and gender.

The table 1 provides an overview of the number of establishments, categorized by size, in the Textile Industry of Clothing and Fabric Artifacts in the formal labor market of the Metropolitan Region of Porto Alegre for selected years. The illustration shows how the sector is organized by size and how it evolves over the study period.

Tab. 1 - Number of establishments, by size, in the Textile Industry of Clothing and Fabric Artifacts, in the formal labor market, in the Metropolitan Region of Porto Alegre for selected years.

Size	1985	1995	2005	2021
Micro Company	400	822	825	631
Small	82	72	74	81
Medium	15	12	16	26
Large	7	2	1	1
Total	504	908	916	739

The illustration shows that the number of establishments grows over the study period, although there is a drop from 2005 to 2021. By 2021, there are 739 organizations in the Textile Industry in the Metropolitan Region of Porto Alegre. These are mainly focused in micro companies. Small businesses nearly recovered their 1985 numbers after a period of decline. Medium-sized enterprises grow from 15 to 26, while large enterprises almost disappear, leaving only one.

Figure 2 further emphasizes the proportion of establishments, by size, in the Textile Industry of Clothing and Fabric Artifacts in the formal labor market in the Metropolitan Region of Porto Alegre, considering the years under study. The illustration observes how the sector is organized by size and to see how it evolves over the study period.

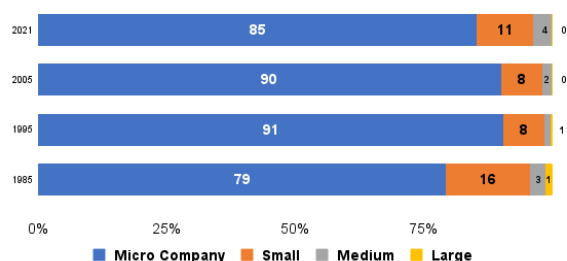


Fig. 2 - Proportion of establishments, by size, in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre in selected years.

The illustration shows that in 1985, 79% of the organizations were micro companies. After a period of higher concentration in 1995 and 2005, we reach the year 2021 with 85% of companies of this size. Small enterprises lose their share, decreasing from 16% to 11% in 2021, but they recover since they reached a minimum of 8%. Medium-sized enterprises grew from 3% to 4% in the same period, and large enterprises nearly disappeared.

Figure 3 shows the variation in the number of establishments, by size, in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre during 2021/1985. Here, the purpose is to observe the growth or decline of the variable over the studied period.

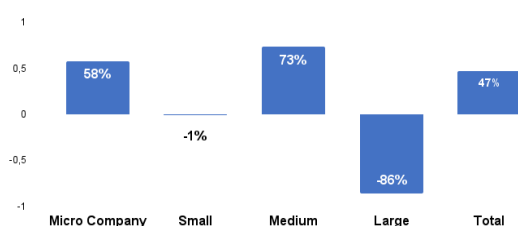


Fig. 3 - Variation in the number of establishments, by size, in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre during 2021/1985.

The illustration shows that the total number of establishments grew by 47%. Micro companies increased by 58%, while small enterprises decreased by 1%. Medium-sized enterprises saw a 73% growth, while large enterprises declined by 86%.

Regarding male and female workers, table 2 shows the number of employment contracts, by gender and chosen education level, in the Textile Clothing and Fabric Artifacts Industry in the formal labor market

in the Metropolitan Region of Porto Alegre in selected years. The objective of the illustration is to observe how the workforce is concerning gender and education level over the studied period.

Tab. 2 - Number of employment contracts by gender and chosen education level in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre in selected years.

Male				
	1985	1995	2005	2021
Total	4.933	3.044	4.456	4.835
Elementary	632	606	729	609
Secondary	345	388	2.055	2.597
Higher Education	177	259	199	266
Female				
	1985	1995	2005	2021
Total	10.410	7.060	6.787	6.578
Elementary	1.276	1.768	1.271	859
Secondary	278	506	3.157	2.511
Higher Education	52	198	237	339
Total				
	1985	1995	2005	2021
Total	15.343	10.104	11.243	11.413
Elementary	1.908	2.374	2.000	1.468
Secondary	623	894	5.212	6.108
Higher Education	229	457	436	605

Table 2 provides information about the total number of employment contracts considering males and females ones. It is noticeable that the total number of contracts decreased significantly from 15.343 in 1985 to 11.413 in 2021, a sharp decline. What draws attention is the shift in the education level of the workers. Contracts for individuals with elementary education decreased, while contracts for those with secondary and higher education increased, with a concentration among workers with a secondary education level. Male work contracts have reduced at the same time that there is an increase in contracts for workers with secondary and higher education, also concentrating on the secondary education level. The trajectory for female contracts followed the same pattern.

Figure 4 presents the variation in the number of employment contracts by gender and chosen education levels in the Textile Clothing and Fabric

Artifacts Industry in the formal labor market. The purpose of the illustration is to observe the change over the studied period.

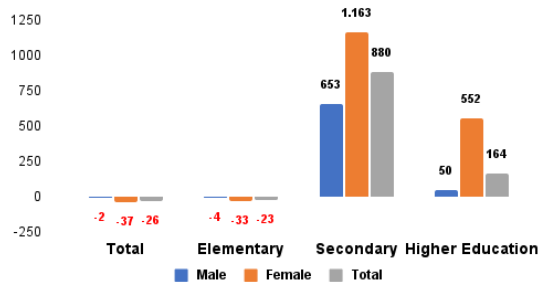


Fig. 4 - Variation in the number of employment contracts by gender and chosen education levels in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre, 2021/1985.

The picture shows that during the study period, the total number of contracts in the sector decreased by 26%. The number of female workers reduced by 37%, and male contracts declined by 2%. As observed previously, contracts for workers with elementary education dropped by 23% in total, 33% for women, and 4% for men. In contrast, contracts for workers with secondary education increased significantly, with women experiencing a remarkable growth of 1,163%, well above the total. We can notice this trend for contracts with higher education, where women achieved a growth of 552%, more than ten times the growth of men in this educational category.

Figure 5 displays the variation in the proportion of female contracts, by chosen education levels, in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre in selected years. The purpose of the illustration is to observe the trajectory of the female workforce over the studied period.

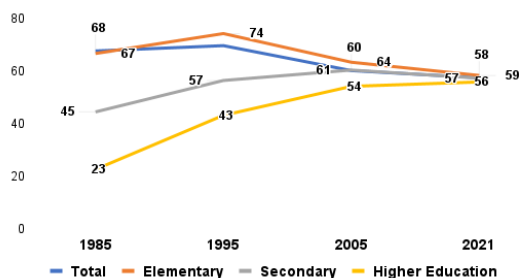


Fig. 5 - Variation in the proportion of female employment contracts by chosen education levels in the Textile Clothing and Fabric Artifacts Industry in the formal labor market in the Metropolitan Region of Porto Alegre in selected years.

The illustration reveals that the total number of female employment contracts represents the vast majority of the workforce. However, it's also true that this proportion has declined over time. The same trend is observed among female workers with elementary education. However, those with

secondary and higher education were not initially in the majority, but by 2021, they represented almost 60% of the workforce.

Next, the last section of the work is presented, that is, the conclusion that ends this study so far.

4. Conclusion

This text aimed to connect the concepts of industrial heritage, cultural heritage, and their relationships with the field of memory. It also aimed to present the textile industry in the Metropolitan Region of Porto Alegre, Rio Grande do Sul, Brazil, from 1985 to 2021, concerning its establishments (size) and workforce (gender and education). Documentary and descriptive research methods were employed to analyze the data. The intention was to understand the textile segment in connection with industrial structure, memory, and culture beyond its products and sustainability.

Based on the findings, the formal labor market of the Textile Clothing and Fabric Artifacts Industry in the Metropolitan Region of Porto Alegre during the selected period from 1985 to 2021, micro companies stood out across all temporal segments. There was also a general increase in the number of companies in the sector, except large organizations, which had a negative performance over the years, reducing the total number of establishments in the selected period.

Regarding the number of employment contracts by gender and chosen education levels until the 1990s, most male and female workers had completed elementary education. After the 2000s, this reality changed, with workers with a secondary education level becoming more prominent for both genders. It is also worth noting the reduction in the participation of women in the sector, while male employment contracts decreased only in the 1995 period. Female employment contracts have declined in all the temporal segments in this research.

Concerning the relationship between the concepts of industrial heritage and cultural heritage, an effort to present objectively some theoretical lines approaching the understandings related to memory, whether social or corporate. As Silva [10] aptly discusses, memories are characterized, in part, by immaterial and intangible factors represented in the "ways of doing" of organizations, becoming part of the identity of workers and impacting the social landscape they inhabit. Thus, industrial culture possesses historical value. Moreover, it is paramount to understand how companies fit into this market to reproduce a heritage now that extends beyond buildings and structures, constituting the identity of labor and making public the relationships among the agents belonging to the textile heritage history present in the region.

5. References

[1] Cordeiro J. M. M. L. *Desindustrialização e*

Salvaguarda do Patrimônio Industrial: Problema ou Oportunidade? Oculum Ensaios, nº 13, Jan/jun 2011.

[2] TICCIH Brasil. *Cartas Patrimoniais: Carta de Nizhny Tagil* [Internet]. 2003 [cited 28 September 2022]:2. Available from: <https://ticcihbrasil.com.br/cartas/carta-de-nizhny-t-agil-sobre-o-patrimonio-industrial/>.

[3] Centro de Estudios Andaluces. *Presentación de la Carta de Sevilla de Patrimonio Industrial* [Internet]. 2018 [cited 14 October 2022]:11-12. Available from: <https://www.centrodeestudiosandaluces.es/noticias/presentacion-de-la-carta-desevilla-de-patrimonio-industrial>.

[4] Ferreira M. L. M. *Patrimônio industrial: lugares de trabalho, lugares de memória*. Revista Museologia & Patrimônio [Internet]. 2009 [cited 22 April 2022];Vol. 2(N. 1):22-35. Available from: <http://revistamuseologiaepatrimonio.mast.br/index.php/ppgpmus/article/viewFile/43/23>.

[5] Meneguello C., Romero E., Oksman S. *Patrimônio industrial na atualidade*. São Paulo: Cultura Acadêmica [Internet]. 2021 [cited 22 April 2022]:92-93. Available from: https://ticcihbrasil.com.br/wp-content/documentos/livro_4.pdf.

[6] Brasil. *Constituição da República Federativa do Brasil* [Internet]. 1988 [cited 13 September 2023]. Available from: <http://www2.camara.leg.br/legin/fed/consti/1988/constituicao-1988-5-outubro-1988-322142-publicacaooriginal-1-pl.html>.

[7] Kühl B. M. *Preservação do Patrimônio Arquitetônico da Industrialização: Problemas Teóricos de Restauro*. 2. ed. São Paulo: Ateliê Editorial, 2018. 328 p.

[8] Alexandrino J. A. M. *O conceito de bem cultural* In: Gomes C. A., Ramos J. L. B. *Direito da Cultura e do Patrimônio Cultural*. Lisboa: AAFDL [Internet]. 2011 [cited 19 December 2022]:223-244. Available from: <https://www.icjp.pt/sites/default/files/media/565-466.pdf>

[9] Colombo N. C. T. J. In Bernd Z, Kayser P. (orgs.). *Verbete Bens culturais imateriais*. Dicionário de expressões da memória social, dos bens culturais e da cibercultura. 2. ed. Canoas: Unilasalle, 2017. 336 p.

[10] Silva R. A. R. *O Patrimônio Industrial Brasileiro: Memória e Cultura Interdisciplinar*. II Congresso Internacional Interdisciplinar em Sociais e Humanidades - CONINTER. Belo Horizonte [Internet]. 2013 [cited 10 May 2022] Available from: https://www.academia.edu/7631347/O_Patrim%C3%B4nio_Industrial_Brasileiro_Mem%C3%B3ria_e_Cultura_Interdisciplinar.

[11] Worcman K. *Memória do futuro: um desafio* In: Nassar P. (org.). *Memória de empresa: história e comunicação de mãos dadas a construir o futuro das organizações*. São Paulo: Aberje, 2004. p. 23-30.

[12] Candau J. *Memória e identidade*. São Paulo: Contexto, 2021. 219 p.

[13] Prodanov C. C., Freitas E. C. *Metodologia do Trabalho Científico: métodos e técnicas da pesquisa e do trabalho acadêmico*. 2. ed. Novo Hamburgo: Feevale, 2013. 277 p.

[14] Bardin L. *Análise de conteúdo*. Lisboa: Edições 70, 1977. 230 p.

[15] PDET - Programa de Disseminação das Estatísticas do Trabalho. *Relação Anual de Informações Sociais (RAIS)* [Internet]. [cited 2 January 2023]. Available from: <http://pdet.mte.gov.br/>.

[16] Sebrae. *Definição de porte de estabelecimentos segundo o número de empregados*. In: SEBRAE-NA/ Dieese. *Anuário do trabalho na micro e pequena empresa* [Internet]. 2013 [cited 2 January 2023]:17. Available from: https://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/Anuario%20do%20Trabalho%20Na%20Micro%20e%20Pequena%20Empresa_2013.pdf.