

Research Paper

The Impact of Geographical Area and Sectors of Activity on the Occurrence of Human Resource Churning

Submitted on 09th March 2024.

Accepted on 10th April 2024

Evaluated by a double-blind review system.

OLGA ALEXANDRA CHINITA PIRROLAS^{1*}
PEDRO MIGUEL ALVES RIBEIRO CORREIA^{1*, 2, 3}

ABSTRACT

Purpose: Given the relevance of operationalizing the concept of churning in the area of human resources, a concept related to the costs resulting from the replacement of workers who have voluntarily decided to leave the organization, and given that this concept is associated with various contexts, the aim of this literature review was to analyse the influence that geographical location and sectors of activity have on the churning, as well as their influence on society.

Methodology: As far as methodology is concerned, a narrative review was used, as it provides an overview of the topics covered, in order to combine perspectives and synthesise articles that have already been published.

Results: After analysing the literature, it was found that the highest percentage of human resource churning occurs in organisations located in large cities, as there is a greater concentration of population, which is more likely to have to compete with several organisations, increasing the likelihood of churning occurring. As for the sector of activity most susceptible to human resource churning, this is centred on the services sector, which is due to this particular sector being mostly located in large cities. In view of the above, it can be predicted that the sectors of activity are implemented by geographical area, given the volume of population, the existing labour force and the available resources, which have a different impact on the rate of human resource churning.

Research limitations: The scarcity of relevant literature on the subject, as well as empirical studies. Another limitation is that an empirical methodology was not chosen, through which it would have been possible to analyse the relationship between different variables, formulate hypotheses and test their veracity, which would certainly have contributed to a more robust enrichment of the literature.

Originality: Addressing the issue of human resource churning, a multifaceted concept that is still little applied and developed by organisations in terms of human resources. It

^{1*} Corresponding author. Institute of Social and Political Sciences, University of Lisbon, Portugal. olgaalexandrap@gmail.com

^{1*,2} Corresponding author. Faculty of Law, University of Coimbra, 3000-295 Coimbra, Portugal. pcorreia@fd.uc.pt

³ University of Coimbra Institute for Legal Research (UCILeR), Trinity College, 3000-018 Coimbra, Portugal

is therefore pertinent to discuss its occurrence at various levels and in various contexts, in this review specifically in terms of geographical location and sectors of activity, thus emphasising the need for organisations to take measures to optimise human resources and minimise unnecessary costs with human resource replacements resulting from voluntary departures.

Keywords: *Churning; Human Resources; Geographical Area; Sector of Activity; Replacements*

1. Introduction

This Human resource churning, a process related to the costs of replacing workers who have voluntarily left their original organisation for another competing organisation (Pirrolas & Correia, 2021a) is a pertinent issue that organisations are increasingly confronted with, which requires further analysis due to its impact on society, both economically and organisationally.

Understanding the importance of operationalising churning, given the influence this phenomenon has on organisations, is one of the key points for organisations to act by implementing strategic mitigation measures, taking into account the sector of activity in which they operate and the geographical area in which they are located.

Although this review focuses on voluntary churning, it should be noted that this phenomenon can be characterised by two types, voluntary churning and involuntary churning, stating that voluntary churning is related to the employee's decision to leave the organisation and involuntary churning is related to the organisation's decision to have the employee leave (Cappelli & Neumark, 2004).

The decision to focus the study solely on the problem of voluntary churning of human resources is due to the fact that it is considered to be the most problematic for organisations due to the high costs it generates (Pirrolas & Correia, 2022a).

Given the complexity of this concept, which is still uncommon in certain organisations, it is a topic that has been gaining relevance in the area of human resources due to the growing competitiveness of the job market. This problem is due to the fact that organisations do not invest in predictive methods through the implementation of retention measures, which means that, given their absence or insufficiency, when employees feel

dissatisfied, they look for more attractive conditions in other organisations (Zhao et al., 2018).

Although human resource churning is associated with various contexts, whether economic, by sector of activity, geographical area or size of organisation (Burgess et al., 2000), and is problematic given the costs involved, it is worth mentioning that the causes of human resource churning, in certain situations, can generate positive aspects. In other words, an increase in the supply of jobs gives workers the opportunity to find better conditions, enabling them to meet their expectations and needs, namely: a more attractive job, better pay, better benefits, better working conditions and facilities, the opportunity for career growth, better leadership and a better location (Pirrolas & Correia, 2021b). However, voluntary churning is related to negative reasons: conflicts with supervisors or colleagues, lack of recognition, demotivation, uninteresting work, lack of training, lack of career opportunities, low salaries, poor working conditions (Pirrolas & Correia, 2022a).

Taking into account the topic and the proposed objective, this review has been structured as follows: topics on socio-economic factors, geographical factors, sectors of activity, preventive churning measures have been covered. This is followed by the methodology applied, the main constructs are presented, a discussion of the topic is presented on the review of the literature discussed and, finally, the conclusions and limitations are presented, as well as the challenge of a proposal for future study.

1.1.Socio-economic factors

As a reflection of the socio-economic context in which the labour market operates, job opportunities vary according to the economic cycles experienced in certain periods. In this sense, considering workers' expectations of working conditions and their personal interests, it is a right of freedom to decide whether to stay or leave the organisation they belong to for another competing organisation, in order to meet their needs (Pirrolas & Correia (2021a).

In the economic context, churning also plays a fundamental role by selecting the most productive organisations, which contribute to the development of the economy, from the less productive organisations that are unable to keep up with developments and end up leaving the labour market. In this case, it's a question of creative churning, i.e. the destruction of less productive companies while promoting the permanence of

organisations with greater productive capacity with the aim of creating economic development (Orelano, 2009)

Findeisen and Sudekum (2008) say that churning is more common in large cities in organisations that rapidly increase or decrease in size depending on their level of productivity, causing a significant long-term impact on their surroundings.

Considering that most economic activity is centred on cities, and that cities are considered the main drivers of economic growth, economic changes have an influence on changes in organisational structures, as well as on the whole process of growth and development, both for the organisation and for its entire environment (Findeisen & Sudekum, 2008).

Contextualising the economy as the main cause of human resource churning, it occurs as a procyclical process influenced by the economy, i.e. in periods of economic recovery, there is an increase in job vacancies, through which they attract employees who are looking for new opportunities with a view to achieving better conditions and satisfying their needs, in this situation, there is an increase in the churning rate, unlike in periods of economic recession when job vacancies are scarce, making it difficult for workers to find a new job and thus remain in the organisation, and it is mainly during this economic period that there is a reduction in the churning rate (Lazaer, 2012).

Considering that the problem of churning human resources is related to economic cycles, since these fluctuate according to economic periods, i.e. facing the effects of an economic recession, labour flows tend to decrease, while the opposite is true of the effects of an economic expansion, that by increasing labour flows, new job opportunities are provided, leading to an increase in the churning rate.

In this sense, it should be noted that churning is related to excessive flows of voluntary departures of qualified workers and the entry of new workers to cope with replacements, deriving this phenomenon from labour flows, the economic situation experienced in certain periods and the organizational situation to cope with voluntary departures (Pirrolas & Correia, 2022a).

In view of the above, as a result of economic globalization, the current social and political complexity arising from constant scientific evolution and technological progress, organizations need to adapt and change existing organizational procedures and policies in order both to face competition and to keep their human resources in the organization (Kamalaveni et al, 2019).

1.2. Geographical factors and Sectors of activity

In terms of geographical influence on human resource churning, organizations located in cities have a greater capacity for innovation and attracting better human resources, due to the fact that it is in constant competition with its competitors, an organization with the ability to innovate, attract and retain its best human resources, is an organization with a reduced churning rate, allowing it to contribute to the evolution of economic development (Findeisen & Sudekum, 2008; Pirrolas & Correia, 2021b).

The choice of company location contributes to the asymmetric distribution of economic activities between countries and regions (Alfaro & Chen, 2014). Most of these are regional clusters of industrial excellence and metropolitan areas (Lavoratori et al., 2020), in other words, the demand for economic agglomeration, given that proximity to other companies in the same or other sectors of activity provides a greater source of investment (Driffield & Munday, 2000).

It should be noted that agglomeration is understood to mean geographical proximity between economic actors (Combes & Gobillon, 2015).

One of the most powerful notions in regional economics and economic geography is the notion of "agglomeration economies", i.e. the economic benefits obtained by economic agents (mainly companies) by grouping together in a pre-structured, densely occupied and generally urban socio-economic space. This notion has been widely accepted by the different schools of thought in economic geography (Moulaert & Gallouj, 1993).

Publicised by Weber (1929) and widely applied by other neoclassically inspired local analysts (Isard, 1956; Hoover, 1948), agglomeration economies have also been recognised by structural and institutional approaches to spatial analysis. Firstly, its original content was considered too economic, underestimating or even neglecting the characteristic socio-cultural and socio-political aspects of "agglomeration". This criticism favoured a more territorial reading of the economic logic of "agglomeration" (Pecqueur, 1989; Coffey & Polese, 1984; Maillat, 1988). This has led to the linking of terms such as "milieu", "locality" and "agglomeration", thus emphasising the socio-cultural aspects. Secondly, and more recently, it has been pointed out that a number of economic advantages traditionally associated with agglomerations can often be better realised within or in interaction with other spatial configurations, in particular global spatial

networks made up of a variety of complementary agglomerations (Johannisson, 1990; Moulaert and Djellal, 1990; Moulaert and Martinelli, 1991).

Hoover (1948) classified agglomeration factors as: a) large-scale economies within a company, resulting from an increase in the company's scale of production over a given period; b) location economies for all companies in a single industry, in a single sector, in a single location, resulting in the total production of that industry in that location; c) urbanisation economies for all industries in a single location, resulting from an increase in the total economic size (population, income, production or wealth).

Subsequent reflections on the notion of agglomeration economies integrated the size factor into the dynamics of location and urbanisation, thus making it possible to distinguish between location economies (agglomeration economies related to the size of the industry itself, concentration of certain industries in certain urban areas) and urbanisation economies (agglomeration economies related to the urban scale) (Henderson, 1983;1988; Moomaw, 1988).

In view of the above, it should be noted that the excessive concentration of economic activity in cities was probably a consequence of the political decisions implemented during the 20th century (Biderman, 2015).

Since industry requires a high concentration of workers to become more productive (Krugman, 1991), this is the classic result of the regional economy (Myrdal, 1947). The large concentration of manufacturing industry has recently migrated to medium-sized cities, while large cities concentrate another type of industry, the service industry.

However, an important concern in the urban economy, according to Jacobs (1969) perspective, is the role played by industry between locations. Industries move from one urban centre to another, in contrast to the slow movement of population Biderman, (2015). This phenomenon is often referred to as "Zipf's Law", as Zipf was the first to show stability in the distribution of population between cities (Biderman, 2015).

Change is faster in the business services sector than in the financial services sector, which is closer to population change. Findeisen and Sudekum (2008) consider that cities specialising in the financial services sector are less likely to move later, compared to the business services sector.

As a result of the constant socio-economic changes, the issue of human resource churning has been gaining relevance throughout the 1990s, reflected in the various sectors of activity, being influenced by the dimensions of the organisation and the different organisational characteristics (Orellano et al, 2009).

As mentioned earlier and addressing the sectors of activity most affected by churning, the great concentration of economic activity in cities arose from political decisions implemented during the 20th century, considering that some industries needed a large concentration of workers in order to be productive, this has become a classic result for the regional economy, given the constant changes that industries have undergone over the last 30 years, changes due to structural changes, which have migrated to medium-sized cities, with large cities becoming dominated by the service sector, which requires a more qualified and competent workforce compared to industry (Biderman, 2015).

However, it is important to constantly acknowledge the contextual factors that shape the functioning of the external labour market, such as sectoral and regional characteristics and competing institutional influences (Grimshaw & Rubery, 1998).

1.3.Preventive churning measures

Emphasizing human resources as fundamental elements in the process of meeting objectives and making decisions, given the need for greater effectiveness and efficiency in terms of organizational effectiveness and competitiveness, it is essential to implement human resources policies. It should be noted that it is through the implementation of human resources policies and practices that organizations contribute to the well-being and satisfaction of their employees, giving them a greater sense of personal and professional achievement, increasing their motivation and thus contributing to greater productivity, with a focus on efficiency and effectiveness. In this way, organizations take on an important role in developing and valuing their human resources, promoting their retention. Adequate human resources policies promote employee commitment, triggering a sense of involvement and loyalty towards an organization of excellence (Pirrolas & Correia, 2023).

It should be added that the interest in changing jobs is related to the characteristics of the organisation and the personal and professional interests of each employee (Kerr, 2018; Pirrolas & Correia, 2022a).

However, in order to mitigate the occurrence of human resource churning, the role of human resource managers becomes pertinent in order to promote personal and organizational well-being.

In this sense, it is important to define or redefine policies and guidelines that promote or correct less positive aspects and that may arouse interest in leaving the organization.

The assignment of challenging and motivating work; recognition of results through their contribution to the proposed objectives; providing a sense of belonging to a work team; Good leadership; recognition for performance; a sense of autonomy; the possibility of flexible working hours; fair pay and benefits are some of the main factors in retaining human resources (Kaye & Evans, 2001).

Given the current economic context in which the labor market is inserted and considering that the different expectations of each worker regarding working conditions and their personal interests, it is a right of freedom for workers to decide whether to stay or leave the organization to which they belong, in order to meet their needs and improve their living conditions (Pirrolas & Correia, 2021a).

However, it is important for organizations to understand the origin of voluntary worker departures. Saradhi and Palshikar (2011) point out that although exit interviews provide a good source of information, it is necessary to use other sources, such as performance evaluations and satisfaction questionnaires.

Another strategic measure for retaining human resources would be the implementation of predictive models, which would make it easier to predict the occurrence of churning and give organizations the opportunity to act in advance or correct less favourable aspects that induce the occurrence of churning (Saradhi & Palshikar, 2011).

In this sense, predictive models of churning would be an asset since they focus on accurately identifying the predictability of human resource churning, detecting which workers are considered valuable, and this is a beneficial process for the organization, this is because not all workers perform at the same level, and it is in the organization's interest to select and keep the workers who are considered to be the most valuable, who do excellent work, and it is these workers that the organization is interested in being able to keep (Saradhi & Palshikar, 2011).

Organizations draw a line between a company's human resources and the workforce available on the external labor market (Osterman, 2011). However, organizations have a mission to protect their human resources from competition, by establishing practices that take into account the external supply practiced (Osterman, 2011; Reynolds, 1951; Williamson, 1975).

Doeringer and Piore (1971)] report have been derived from the harmful consequences and costs of the loss of specialized or technically qualified resources, which have led to the inspiration for the creation of structures to bind workers to the organization, i.e. the application of strategic measures to retain human resources. From the perspective of Williamson et al. (1975) by considering and linking the interests of the workers to the interests of the organization, through contractual improvements and the promotion of career progression, an affirmative attitude towards work was developed, filling in or bridging existing gaps that led to the loss of human resources.

2. Methodology

To carry out this literature review, a narrative review was used, as it provides an overview of the topics covered in order to combine perspectives and synthesise the theoretical framework (Snyder, 2019). This methodology was chosen given that a narrative review provides a comprehensive overview of the literature related to a topic and synthesises previous studies to strengthen the knowledge base (Paul & Criado, 2020).

In view of the above, the narrative review made it possible to select and analyse the main constructs.

Considering human resource churning, a multifaceted concept, which is associated with various contexts (Burgess et al., 2001), the aim of the literature review was to address and analyze the influence that geographical location and sectors of activity have on human resource churning, as well as their influence on society.

The choice of literature review as the method applied in this review was based on the fact that this procedure for processing documentary information presents analogies, the purpose of which is to clarify the specific nature and scope of the action (Bardin, 2020).

However, it should be noted that literature review (document analysis) is defined as an operation or a set of operations that aims to represent the content of a document in a form

other than the original, with the aim of facilitating its consultation and referencing at a later stage (Chaumier, 1989; Chaumier, 1988).

According to the perspective of Bardin (2020), the processing of the information contained in the accumulated documents is defined by document analysis, the aim of which is to give the information a convenient form and represent it in another way. Since the purpose of document analysis, in this case literature analysis, is to store information in a variable form and make it easy for the reader to access it, so that they can obtain the maximum amount of information, with maximum relevance.

In short: document analysis is a preliminary stage in the creation of a documentation service or a database, which makes it possible to move from a primary document (raw) to a secondary document (representation of the first) (Bardin, 2020). Their indexing is regulated according to a selection and choice of terms or ideas adapted to the system and the purpose of the documentation in question (Bardin, 2020).

As for the methodological aspects applied in this review, it is based on international literature on the churning of human resources, geographical, sectoral and economic factors.

To identify the state of the art on this subject, a search was carried out in the following databases: Google Scholar, Researchgate, MDPI Journals Online, Science Direct (Elsevier), Sage Journals Online, Academic Search, B-on and Scielo.

The following keywords were used: human resources churning, geographical area, economic factor, human resources policies, preventive methods, sector of activity, used simultaneously when filling in the subject criteria in the respective search engine fields.

Based on the results obtained through the aforementioned search engines, the abstracts of the texts and their conclusions were read in order to identify whether the articles had the subject matter of this review as their object of study, thus enabling it to fulfil its objective.

3. Results

In view of the above, taking into account the literature review on the subject under study, the main constructs shown in Table I were selected.

Table I - Main constructs addressed that influence human resource churning

Constructs	Operational definition	Sources
Human resources churning	Related to the analysis of the costs associated with new hires derived from employees who have left voluntarily and that the company will have to bear in order to deal with these replacements.	Pirrolas & Correia (2021a)
Geographic area	Location of the organization, which can be considered a possible factor in attracting and retaining workers, as well as determining the decision to leave.	Saradhi & Palshikar (2010) Dolatabadi & Keynia (2017)
Activity sector	It represents various economic areas, where the flow of work and the flow of workers fluctuate substantially, being divided into two sectors: public and private, with this factor influencing the percentage of human resources churning.	Kerr (2018) Flórez et al. (2017)
Economic cycles	It gives a clear picture of the fluctuations in the economy, i.e. when the economy slows down or recovers, interfering in the labor market and influencing the occurrence of churning.	Pirrolas & Correia (in prelo)
Human resources policies	A set of legislated procedures that work together constructively to achieve certain objectives.	Singar & Ramsden (1972)
Human resources practices	It is about putting organizational policies into practice in order to optimize the functioning of the organization, given the optimization of its processes, the valorization of its human capital, making it possible to improve the adjustment of tasks, increase employee satisfaction, leading to maximized productivity, providing increased profit, and contributing to the reduction of the occurrence of churning.	Burgess et al. (2001) Pirrolas & Correia (2021a)

Source: elaborated by the authors.

4. Discussion

As mentioned above, by reviewing the literature on this subject, the results obtained are presented here in order to answer the aim of this review: analyze the influence that geographical location and sectors of activity have on the churning of human resources, as well as their influence on society.

In order to assess the influence that geographical area and sector of activity have on the occurrence of human resources churning, we used the results of a study carried out by

Torre et al. (2017). From his analysis of the study of Bratti & Leombruni (2014) about human capital that explore geographical variation in the context of supply and demand by considering the density of universities, taking into account the region where they are located and the type of courses available, it was found that the courses on offer were adapted to the industry in the region where the university was located, and that in regions where manufacturing companies remain, the university courses in that region are related to production areas, including technical courses and social sciences courses.

On the other hand, the analysis carried out on the study of Hancock et al. (2013) and Heavey et al. (2013) they also mentioned other factors that can affect the relationship between human capital, human resource churning and labor productivity, including the size of the organization (total number of employees), information on the sector of activity and geographical location.

Through the aforementioned studies, Torre et al. (2017) found that the churning of human resources occurs mostly in large regions, which are related to the sector of activity, which in turn influences the supply of higher education courses in order to provide employment in that geographical area. It was also found that it is in organizations with a higher technological intensity that the highest percentages of churning occur, geographical area influences the occurrence of churning, with a lower percentage in the provinces compared to organizations located in cities, it is therefore speculated that this is due to the greater supply of training and jobs, which gives workers the opportunity to change organizations.

In the same context, other studies considered relevant were also analyzed, such as the study carried out by Kerr (2018) in South Africa, which showed that the size of the organization has an influence on the churning of human resources, with 54% to 58% of the flow of workers occurring annually, this occurrence is plausible in 34% in small companies and 73% in large companies. Churning flows differ substantially by sector of activity, with 13% occurring in public administration, in the electricity, gas and water sector, with 58% in the industry (manufacturing) sector, 49% in the service provision sector and 43% in the commerce sector. On the other hand, in the case of a study carried out by Burgess et al. (2000) in Maryland, it was found that 45% of churning occurs in smaller companies compared to large companies (10.5%), with 70% of churning occurring in companies in the service sector and 62% in companies in the industry sector (manufacturing).

The justification for these differences is related to geographic location, i.e. organizations located in developed cities or countries are more likely to achieve success due to their greater capacity for innovation, to attract the best human resources in order to face competition (Moreira et al., 2018; Pirrolas e Correia, 2022b).

An organization that has the ability to innovate, attract and retain its best human resources, the likelihood of churning is reduced, thus allowing it to contribute to the evolution of economic development (Findeisen & Sudekum, 2008).

However, when it comes to sectors of activity, considering the various sectors of activity, we refer to those that have been most addressed in the literature with regard to this topic, i.e. the industrial sector and the services sector. In this way, it was found that in the industrial sector, usually located in more rural areas or small towns, the jobs are less specialized, and the human resources tend to have lower levels of education, which makes it difficult for them to find a job and remain in the organization, negatively influencing the churning process (Findeisen & Sudekum, 2008).

On the other hand, organizations in the service sector, which tend to be located in large cities, have a higher level of job complexity, human resources with higher levels of qualifications, and a greater capacity to invest in innovation and better working conditions, however, if the organization does not have the capacity to retain its best human resources through incentive and motivation strategies, they will decide to look for jobs in competing companies that offer better conditions and meet their expectation (Biderman, 2015).

5. Conclusions, Limitations and Proposal for Future Study

In conclusion, it can be said that the proposed objective was achieved, and it was possible to verify the principle advocated by Tobler (1963) by mentioning that the geographical area is associated with places/regions, undergoing changes or differences from place to place, whether at a global or regional level, interfering with economic activity, which is related to population density or otherwise, we can predict that the geographic area has a positive or negative impact on the sector of activity, based on the characteristics of the location where it is located, the characteristics of the organization and the population that are part of it, with its adaptation being essential. The capacity and viability of organizations to survive and subsist in certain locations depends on their ability to adapt

and innovate in the face of constant economic and social change (Foster et al., 2016). Depending on the sector of activity, it is necessary to select the human resources that best fit in and have the characteristics and skills to carry out functions in that sector in order to avoid churning, making it possible to contribute to the evolution of organizational and economic development (Pirrolas & Correia, 2021a; Orellano et al., 2009).

In addition to economic factors, other causes influence the occurrence of human resource churning, namely geographical area and sectors of activity. These in turn are interlinked with other factors, such as educational qualifications.

Given that the main economic engine is centered on the big cities (urban environment), a fact that is due to the greater concentration of population, their context and surroundings being more likely to attract more qualified and competent human resources, the greater number of job offers (Findeisen & Sudekum, 2008).

On the other hand, rural areas are characterized by a lower population density and fewer job offers, so the fear of the human resources who are part of these organizations to risk a new opportunity due to the scarcity of jobs translates into low churning rates (Artz et al., 2020).

To sum up: this narrative review has contributed to the enrichment of the literature, fulfilling the objective of analyzing the influence that geographical location and sectors of activity have on the churning of human resources, as well as their influence on society.

In view of the above, the literature review has allowed us to enrich our knowledge and carry out a theoretical analysis, confirming that the service sector is more concentrated in large cities, a sector that requires a higher level of qualifications and skills, the positions held are more complex compared to organisations in the (manufacturing) industry sector, which are usually located in rural areas. Given the reduction in job vacancies and the lack of qualifications of these human resources, it is difficult to find new job opportunities, so they tend to stay with the organisation, contributing to a low human resource churning rate.

The limitations of this research were the scant literature and the few empirical studies on the subject, another limitation was related to the fact that an empirical methodology was not chosen, through which it would have been possible to analyse the relationship between different variables, formulate hypotheses and test their veracity, which would certainly have contributed to a more robust enrichment of the literature. The integration

of a theoretical approach with empirical data provides a comprehensive perspective on the costs and preventive measures of human resource churning, as well as another insight into the influence that the geographical location of organisations, as well as the sectors of society, have on the occurrence of human resource churning.

In this sense, as well as suggesting that future studies replicate the theoretical analysis described in this literature review, in order to deepen and reinforce the conclusions presented, we propose the challenge of carrying out a quantitative empirical study, using questionnaires as a data collection method, in order to define hypotheses, analyse the relationship between variables and test their veracity using statistical analysis methods.

References

- Alfaro, L. & Chen, X. M. (2014). The global agglomeration of multinational firms. *Journal of International Economics*, 94(2), 263 - 276. <https://doi.org/10.1016/j.jinteco.2014.09.001>
- Artz, G.; Eathington, L.; Francois, J.; Masinde, M. & Orazen, P. (2020). Churning in Rural and Urban Retail Markets. *The Review of Regional Studies*, 50, 110-126.
- Bardin, L. (2020). *Análise de conteúdo*. Edições 70.
- Biderman, L. (2015). The Geographic Dynamics of Industry Employment in Brazilian Metropolitan Areas: lessons for São Paulo. *Brazilian Journal of Political Economy*, 35(3), 492-509.
- Bratti, M. & Leombruni, R. (2014). Local human capital externalities and wages at the firm level: Evidence from Italian manufacturing. *Economics of Education Review*, 41, 161–175.
- Burgess, S.; Lane, J. & Stevens, D. (2000). Job Flows, Worker Flows, and Churning. *Journal of Labor Economics*, 18, 473-502. <https://doi.org/10.1086/209967>
- Burgess, S.; Lane, J. & Stevens, D. (2001). Churning Dynamics: an analysis of hires and separations at the employer level. *Journal of Labour Economics*, 8, 1-14. [https://doi.org/10.1016/S0927-5371\(00\)00027-0](https://doi.org/10.1016/S0927-5371(00)00027-0)
- Cappelli, P. & Neumark, D. (2004). External Churning and Internal Flexibility: Evidence on the functional flexibility and core-periphery hypotheses. *Industrial Relations*, 43(1), 148-182. <https://doi.org/10.1111/j.0019-8676.2004-00322>
- Chaumier, J. (1988). *Le traitement linguistique de l'information*. Enterprise moderne d'Édition, 3^a ed.
- Chaumier, J. (1989). Les techniques documentaires, 5^a ed.
- Coffey, W. & Polese, M. (1984). Local Development Conceptual Bases and Policy Implications. *Regional Studies*, 19.
- Combes, P. P. & Gobillon, L. (2015). The empirics of agglomeration economies. In G. Duranton, V.; Henderson, W. Strange (Eds.), *Handbook of urban and regional economics*, 5, 247–348).
- Debaere, P.; Lee, J. & Paik, M. (2010). Agglomeration, backward and forward linkages: Evidence from South Korean investment in China. *Canadian Journal of Economics*, 43(2), 520–546. <https://doi.org/10.1111/j.1540-5982.2010.01582.x>
- Doeringer, P. & Piore, M. (1971). *Internal Labor Markets and Manpower Analysis*. Lexington, MA: Heath Lexington Books.
- Dolatabadi, S. & Keynia, F. (2017). Designing of Customer and Employee Churn Prediction Model Based on Data Mining Method and Neural Predictor. *The 2nd International Conference on Computer and Communication Systems*, Krakow, Poland, 1-4. <https://doi.org/10.1109/CCOMS.2017.8075270>

- Driffield, N. & Munday, M. (2000). Industrial performance, agglomeration, and foreign manufacturing investment in the UK. *Journal of International Business Studies*, 31(1), 21–37. <https://doi.org/10.1057/palgrave.jibs.8490897>
- Fielder, M. & Moor, K. (2017). Users on the move: On relationships between QoE ratings, data volumes and intentions to churn. *IEEE, 42nd Conference on local Computer Networks Workshops*, 1-7. <https://doi.org/10.1109/LCN.Workshops.2017.70>
- Findeisen, S. & Sudekum, J. (2008). Industry Churning and the Evolution of Cities: evidence for germany. *Journal of Urban Economics*, 64, 326-339.
- Flórez, L.; Morales, L.; Medina, D. & Lobo, J. (2017). Labour flows across firm´s size, economic sectors and wages in Colombia: evidence from employer-employee linked panel. *Borradores de Economía*, 1013.
- Foster, L.; Grim, C. & Haltiwanger, J. (2016). Reallocation in the Great Recession: cleansing or not? *Journal of Labor Economics*, 34(1), 293-331.
- Grimshaw, D. & Rubery, J. (1998). Integrating the internal and external labour markets. *Cambridge Journal of Economics*, 22(2), 199–220.
- Hancock, J. I.; Allen, D. G.; Bosco, F. A.; McDaniel, K. R. & Pierce, C. A. (2013). Meta-analytic review of employee turnover as a predictor of firm performance. *Journal of Management*, 39(3), 573–603.
- Heavey, A. L.; Holwerda, J. A. & Hausknecht, J. P. (2013). Causes and consequences of collective turnover: A meta-analytic review. *Journal of Applied Psychology*, 98(3), 412–453.
- Henderson, J. (1983). Industrial Bases and City Sizes. *American Economic Review*, 73, 164-9.
- Henderson, J. (1988). *Urban Development: Fact. Theory and Illusion*. New York: Oxford University Press.
- Hoover. E. (1948). *The Location of Economic Activity*, New York: McGraw-Hill.
- Isard, W. (1956). *Location and Space Economy*, Cambridge, MA: MIT Press.
- Jacobs, J. (1969). *The economy of cities*. London: Jonathan Cape.
- Johannisson, B. (1990). Organizing for local economic development- on firm and context dynamics, *30 European conference of the RSA Istanbul*, 28-31 August.
- Kamalaveni, M.; Ramesh, S. & Vetrivel, T. (2019). A Review of Literature on Employee Retention. *International Journal of Innovative Research in Management Studies (IJIRMS)*, 4, 1–10.
- Kaye, B. & Evans, S. (2001). Retaining key employees. *Public Management*, 1, 6-11.
- Kerr, A. (2018). Job Flows, Worker Flows and Churning in South Africa. *South African Journal of Economics*, 86, 141–66. <https://doi.org/10.1111/saje.12168>
- Krugman, P. (1991). Increasing Returns and Economic Geography. *Journal of Political Economy*, 99, 483–99.
- Lavoratori,K.; Mariotti, S. & Piscitello, L. (2020). The role of geographical and temporary proximity in MNEs' location and intra-firm co-location choices. *Regional Studies*, 54(10), 1442–1456. <https://doi.org/10.1080/00343404.2020.1732901>
- Lazear, E. & Spletzer J. (2012). Hiring, Churn, and the Business Cycle. *American Economic Review*, 102(3), 575–579.
- Maillat, D. (1988). PME, Innovations et development territorial. *IRER, Cahier*, 18.
- Moomaw, R. (1988). Agglomeration Economies: Localization or Urbanization? *Urban Studies*, 25.
- Moreira, G.; Oliveira, M.; Lopes, A. & Pantoja, M. (2018). Concepção de Suporte Organizacional e Intenção de Rotatividade com Base na Literatura. *Sociedade e Cultura*, 21(1), 219-231. <https://doi.org/10.5216/sec.v21i1.54932>
- Moulaert. F. & Djellal, F. (1990). Les conseils en technologic de l'informatioti: des Economies d'agglomeration en roseau. *Conference 'Metropoles en Desequilibre?*, Lyons.
- Moulaert, F. & Martinelli, F. (1992). *Le conseil en technologie de l'information et la technologie du conseil*, in J. Gadrey (ed.). *Manager le conseil*
- Moulaert, F. & Gallouj, C. (1993). The locational geography of advanced producer service firms: the limits of economies of agglomeration. *Service Industries Journal*.
- Myrdal, G. (1947). *Economic Theory and Underdeveloped Regions*. London: Duckworth.
- Orellano, V.; Mattos & Pazello, E. (2009). A Substituição de Trabalhadores como Instrumentos para Redução de Gastos com Salários: evidências para a indústria paulista. *Revista Brasileira de Economia*, 63(2), 135-152.

- Osterman, P. (2011). Institutional labor economics, the new personnel economics, and internal labor markets: a reconsideration. *ILR Review*, 64(4), 637–653.
- Paul, J. & Criado, A. (2020). The art of writing literature review: What do we know and what do we need to know? *International Business Review*, 29, 1-7. <https://doi.org/10.1016/j.ibusrev.2020.101717>
- Peequeur, B. (1989). *Le développement local*. Paris: Syros.
- Pirrolas, O. & Correia, P. (2021a). The Theoretical-Conceptual Model of Churning in Human Resources: The importance of its operationalization. *Sustainability*, 13, 4770.
- Pirrolas, O. & Correia, P. (2021b). Churning de Recursos Humanos: causas e estratégias de atenuação. *Revista Lex Humana*. 13(1), 165-181.
- Pirrolas, O. & Correia, P. (2022a). Literature Review on Human Resource Churning—Theoretical Framework, Costs and Proposed Solutions. *Social Sciences*, 11: 489 <https://doi.org/10.3390/socsci11100489>
- Pirrolas, O. & Correia, P. (2022b). Churning de recursos humanos: setor privado versus setor público. *Revista de Gestão dos Países de Língua Portuguesa*, 21(3), 163–182 <https://doi.org/10.12660/rgplp.v21n3.2022.85188>
- Pirrolas, O. & Correia, P. (2023). Human Resources Churning. *Encyclopedia*, 3, 582–589 <https://doi.org/10.3390/encyclopedia3020041>
- Pirrolas, O. & Correia, P. Human Resources Churning Dependent on the Economy: society's impact on institutions? *Revista de Administração Mackenzie – RAM* (In Prelo), 25(5).
- Reynolds, L. (1951). *The Structure of Labour Markets*. New York: Harper and Brothers.
- Saradhi, V. & Palshikar, G. (2010). Employee Churn Prediction. *Expert Systems with Applications*, 38(3), 1999-2006. <https://doi.org/10.1016/j.eswa.2010.07.134>
- Schumpeter, J. (1976). *Capitalism, Socialism and Democracy*. 5ª edição. George Allen & Unwin (Publishers) LDA.
- Singer, E. & Ramsden, J. (1972). *Human resources: obtaining results from people at work*. London: McGraw-Hill.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Tobler, W. (1963). Geographic Area and Map Projections. *Geographical Review*, 53(1), 59-78.
- Torre, E.; Zatzick, C.; Sikora, D. & Solari, L. (2017). Workforce Churning, Human Capital Disruption, and Organisational Performance in Different Technological Contexts. *Human Resource Management Journal*, 28, 112-127. <https://doi.org/10.1111/1748-8583.12167>
- Weber, A. (1929). *Theory of the Location of Industry*, Chicago: University of Chicago Press.
- Williamson, O.; Wachter, M. & Harris, J. (1975). Understanding the employment relation: the analysis of idiosyncratic exchange. *The Bell Journal of Economics*, 6(1), 250–278.
- Zhao, D.; Li, J.; Tan, Y.; Yang, K.; Ge, B. & Dou, Y. (2018). Optimization Adjustment of Human Resources Based on Dynamic Heterogeneous Network. *Physica A*, 503, 45-57. <https://doi.org/10.1016/j.physa.2018.02.168>