

RESTRUCTURING OF PRODUCTION, PRECARIOUS EMPLOYMENT AND PROFESSIONAL TRAINING

The Case of an Oil Refinery in Brazil

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Abstract:

This paper presents the results of research on the impact of restructured production on the training of subcontracted workers at an oil refinery in the state of Bahia, Brazil. An analysis is made of whether transformations in the work organization have an impact on employee training in service companies, known as "third parties," and whether the so-called "new skills" required from plant workers are also required from subcontracted workers. One of the main conclusions is that, in contrast with companies that employ permanent workers, companies that are "third parties" or offer subcontracted services, do not invest in their employees' education; they prefer workers with professional experience obtained from schooling (formal, in regular courses, or informal, through self-study) or from on-the-job learning.

Key words: schools, professional skills, restructuring of the production sector, third-party work, Brazil.

Initial Considerations

In Brazil, parallel to the restructuring of its industry (and its resulting loss of importance as a source of employment) in the 1990s, the hiring of labor became more flexible, as shown by the projects of Cardoso (2003), Dedecca (2003) and Wacquant (2003), among others. Within a context of international crisis and unfavorable economic conditions the nation, is the Brazilian petrochemical industry. One of the basic landmarks of the industry is Polo Petroquímico de Camaçari, built in Bahia in the 1970s and 1980s.

Much has been written about the characteristics of that chemical complex, as well as its origins in the 1970s, when it was established 60 kilometers from Salvador, in the municipality of the same name. In brief, its creation can be considered to constitute a stage in which industrialization—motivated by laws 3.995/61 and 4.239/63—favored the displacement of important investment toward segments producing intermediate goods. As a result of these actions, the leading sector of the Brazilian economy was integrated, as a priority of the Second National Development Plan formulated by the government in 1974. The ultimate result was a new regional division of labor.

Such changes, vital for the development of the Brazilian Northeast, were a decisive influence on the accelerated pace and scope of the country's industrial expansion. In this process, the city of Salvador became, along with Recife to Fortaleza (to a lesser degree), an important nucleus of growth. The region's development, propelled almost exclusively by these actions, was such that some authors compared the Brazilian effort with that of Japan during the Meiji Revolution. But not even in Japan were the rates of gross formation of capital equal to those of the Brazilian Northeast.

Therefore, along with the growth of industrial activities of the Brazilian state, a pronounced increase occurred in the absorption of labor, principally in the setting of

dynamic industry. In that period, petrochemical work represented a means of social climbing for candidates from the more prosperous lower classes or the impoverished middle class, who desired mid-level positions. In the urban setting of Salvador, a young man who had finished his secondary education had the option in the petrochemical industry to obtain, with technical studies, a wage level equal to or greater than what he would earn after four years more of higher education, even if he found work in industry (Guimarães, 1995). Our task will be to discover the changes that the 1980s and 1990s brought to Polo Petroquímico de Camaçari, and the repercussions of these changes on the work organization and on employee performance.

Polo Petroquímico de Camaçari during Restructuring: Effects on the Use of Work

The early 1980s were characterized by unfavorable economic conditions for the nation. All sectors of production searched for increased indexes of efficiency. The international crisis was a challenge for the petrochemical industry, making the Polo companies turn to the international market— which following successive oil crises, was in a stage of restructuring.

The effects of international crisis also affected the Brazilian government. Maintaining subsidies and mechanisms to support the market conditions of the nation's petrochemical market became more difficult. This set of factors resulted in a search for new forms of corporate procedures in the sector, based on measures such as:

- The rationalization of costs and increased productivity, expressed in the modernization of process technology, a requirement for success in “desgargamentos”,¹ and their control— condition for minimizing loss and stabilizing the production process, and for guaranteeing greater product quality and more competitive prices.
- Incentives for integrating decision-making systems in management and technical areas, to ensure ongoing communication.

Based on these principles, the 1990s became a period of profound transformation for Brazilian petrochemicals. New organizational principles were implemented, with plans for privatizing the sector. At the beginning of the decade, turbulence appeared in the formerly calm waters of the Brazilian petrochemical industry, which had been protected by subsidized gasoline prices (the sector's main raw material), fiscal and financial subsidies for the implementation and expansion of units of production, the limitation of foreign competition, incentives for technological renovations, and the regulation of industrial relations.

The administration of President Collor brought great concern to the industry, which had been free from upheaval up to that time. The blocking of financial assets, the lack of liquidity in national currency, the reduction of import tariffs on various petrochemical products, the decrease in gasoline subsidies (with a price increase of 35.2% between 1989 and 1990) and the freezing of prices, abruptly halted the sector's expansion (Teixeira, 1992; Guerra, 1994).

Along with these measures, major projects of a political/administrative nature were formulated. They were headed by the privatization program, which imposed new directions on the role of Petroquisa (Petróleo Química S/A), a public-sector company then in charge of organizing the sector, and as a minority partner, responsible for controlling the government's shares. In that period, various factors marked the restructuring and flexibility of the petrochemical industry: a strong movement of

mergers, incorporations, stock splits, change of shareholding positions and operating assets, as well as investments in new businesses, deactivation of units of production, specialization in complete fields and reorganized businesses.

This process brought about significant, rapid political and administrative strategies in restructuring Brazil's petrochemical industry. Outstanding were the changes in the three-part model of shareholding— the government, private sector and multinational investors. Alterations were made in market strategies, companies' organizational structure, the tactics of technological renovations and the organization of production, as well as the nature of industrial relations.

In a setting of such numerous and profound changes, it is necessary to study the challenges faced by workers when their companies, as part of the restructuring process, adopted measures to decrease hierarchical levels, reduce the workforce, and especially, to use third-party workers.

Such measures, used widely by the companies of Polo Petroquímico de Camaçari, have the objective of eliminating any jobs not directly related to the company's purpose; i.e. its final product. The functions previously considered supplementary to the petrochemical industry— eaning, food service, security, etc.— are now tasks (including those central to the company, such as maintenance) that are subcontracted to third parties.

In a case study of the Brazilian petrochemical industry, Castro (1996) identified a series of procedures that represent the essence of the changes for permanent employees:

- An emphasis on teamwork and attitudes that encourage self-control, such as the elimination of the timecard.
- A decrease in practices that mark unequal status, such as differences in badge colors by hierarchy, and separate dining areas.
- A delegation of tasks with menial content to third parties.
- Changes in required training to permit mid-level professionals with proven professional performance to direct technical units, such as units of production. Such functions, previously restricted to professionals with university degrees, are now being opened to mid-level professionals, and are proving that performance can be more important than the level of schooling.
- New career plans "by skills", with changes in nomenclature, job duties and career profiles, and adjustments according to the new forms of company administration.
- Deactivation of the previous organization of human resources, and the transfer of personnel management to the company's quality program.

A recent study on the Landulfo Alves refinery in Bahía, Fartes (2000) observed that such changes influence the organizational structure of the "mother company", and cause an immediate reduction of the workforce, in addition to an important decrease in the number of hierarchical levels. The company, however, preserves a reasonable number of its own employees in production, and reserves for these "survivors" many of its efforts in promoting and providing continual training.

The above study found indicators that were quite significant in terms of training. Learning at the workplace while in contact with more experienced co-workers, has shown to be a very effective method. It is recognized by workers (who generally attribute daily practice and contact with more expert colleagues as the most important form of acquiring training) as well as by management, which aims at ongoing employee training as a means of certifying and promoting operations personnel.

With regard to the changed nature of required training, both managers and workers have become concerned about multiple training. Operations personnel are required to be able to operate diverse units in the sector, in interchangeable form according to the dynamics of automatic production. This practice, however, is conflictive for the workers: while some consider it a form of increased training and greater responsibility, others find it no more than an accumulation of service for a workforce reduced by restructuring and replaced by automatic processes— an overloading of the “survivors” with the tasks of eliminated positions.

With regard to the sources of training, our research attempted to understand the role of both formal and informal education. A study of forms of recruiting shows that both companies and workers value mid-level formal educational— particularly technical education— o a lesser degree because of the knowledge the employee gains, and to a greater degree as a way to obtain employment, as if the diploma were a passport to a professional career. These ideas are confirmed by the recurring discourse of workers, who express that everything they know about their current position was learned on the job. Some admit that school provided them with the bases of knowledge— eading, writing, and counting— and that technical schooling gave them some of the fundamentals of science.

Courses and training sessions are considered indispensable for keeping up with technological changes as well as surviving in the company. A worker committed to production goals must show management his interest in following organizational principles.

Workers attributed much of the perception of common sense to informal education obtained from their surroundings; family influence is considered decisive in forming character and the desire to “progress and improve in life”. The variant of informal education— acit training— considered by the study and researched through workers’ descriptions of their daily experiences, was one of the most valuable sources of training. Such training takes the form of learning with colleagues, collective reflection in training groups, encounters promoted by management to involve personnel in the company’s goals, and meaningful daily experiences. Training is recognized and valued as an ongoing process in the dynamics of production.

The depiction of these important changes was based on the working conditions of company personnel, but the analyses left a relevant matter pending: Will such transformations have an impact on the training offered by companies that provide labor services as “third parties”? Are the new skills required from employees also required from third-party workers? Before presenting the results of the study, general remarks must be made on the process of third-party labor in the Brazilian context.

The Process of Third-party Labor

Third-party labor is a strategy adopted by companies to transfer labor and employment costs to subcontracted companies that offer certain services. Other terms to describe the phenomenon in Brazil are: the externalization of activities to other companies, subcontracting and even outsourcing. Druck (*apud* Hirata, 1999) mentions four types of third-party labor in Japan, the birthplace of this model of production:

- i) *Kogaisha*: branch company
- ii) *Kioryoku gaisha*: cooperating company
- iii) *Kankei gaisha*: company with which relations are maintained, a linked company
- iv) *Shitauke gaisha*: subcontracted company or company that offers third-party services²

According to Druck (1999), great discrimination exists among workers in Japan. Personnel identified with the company are distinguished from subcontracted personnel by the color of their uniforms, the use of different places in dining rooms, and so on. In this manner, a division is generated among the workers, with a coexistence of employees from the first and second categories. Such a situation hinders social interaction and even the creation of a class identity among operations personnel, thus affecting the structure of labor collectives and eliminating most of the “privileges” established by stable employment. A statement in many studies on third-party labor, including the study by Antunes (1995), is that the fundamental objective of companies that adopt the practice has been to reduce costs by transferring social and labor responsibilities to companies contracted to provide services.

In a widely known text, Castel (1998) comments that the precariousness of employment is part of the current dynamics of modernization, since so-called *flexibility* is not limited to the need to adjust mechanically to a certain task: rather, it represents the imperative of adapting to the fluctuations of demand. In the author’s words:

[...] management in tense flow, production by the job, immediate response to market casualties, have become the categorical imperatives of the functioning of competitive companies. To assume them, the company can turn to subcontracting (external flexibility) or train its personnel for flexibility and polyvalence to be able to confront all kinds of new situations (internal flexibility). In the first case, the assumption of market fluctuations is entrusted to satellite companies. *They can do so at the cost of great precariousness in working conditions and many risks of unemployment. In the second case, the company is responsible for adapting their personnel to technological changes. But at the cost of eliminating those unable to attain these new standards of excellence* (Castel, 1998:517-518) (cursives by author).

At the present time, Brazil is undergoing the adoption of the practices described by Castel, in all sectors of economic activity (industry, commerce, services and agriculture). But the model of third-party labor, predominantly used since the 1990s, has been the model of end activities (production, operations and maintenance). This model is different from that of the 1980s, when third-party areas were the so-called “support areas” of cleaning, security or food services.

Therefore, a return to the debate opened by research on stable workers (permanent employees hired by an oil refinery) while broadening it to include the universe of subcontracted employees— as observed by Rizek (1995)— can show that reflection on the present and future is not only legitimate, but essential. Temporarily contracted personnel “personify” the phenomena at the nucleus of contemporary society.

Research

Who are the workers from “third-party” companies?

This study does not attempt to generalize results for the entire collective of workers, but only analyzes a case that can contribute to certain preliminary clarifications. We are aware of the extreme diversification and complexity in the movement of operations personnel. The companies to which they are linked temporarily may use from two hundred to more than two thousand employees, including employees with no type of contract with the third party (as in small family companies with no legal registration that offer certain types of services with fewer than ten employees).

An analysis is made of a case of a medium-sized company. Forty questionnaires were completed; we carried out qualitative interviews with ten of these participants, and two interviews with union leaders.

Most of the participants (45.05%) had already had five or more jobs. Of this number, 30% had been with the company between two and five years, and 47.5% had a wage level between 501 and 1,000 reales³ (Tables 1, 2 and 3). Graph 1 shows their level of schooling. It can be seen that the largest percentage (45%) had completed basic education;⁴ 27.5% had completed upper education, and 5.0% had started upper education. These data show that the level of schooling of the employees in the company under study was significantly good, considering that only 5.0% had less than a fourth-grade education.

TABLE 1

Number of Jobs Obtained per Respondent during Employment History

Number of Jobs Obtained	Respondents	%
This is my first job	5	12.5
Two jobs	4	10.0
Three jobs	4	10.0
Four jobs	9	22.5
Five or more jobs	18	45.0
Total	40	100.0

Source: Fieldwork, 2003, as in following graph and charts.

TABLE 2

Time Worked in the Company per Respondent

Time in Company	Respondent	%
Less than two years	6	15.0
From 2 to 5 years	12	30.0
From 6 to 10 years	8	20.0
From 11 to 15 years	9	22.5
From 16 to 20 years	3	07.5
No response	2	05.0
Total	40	100.0

TABLE 3

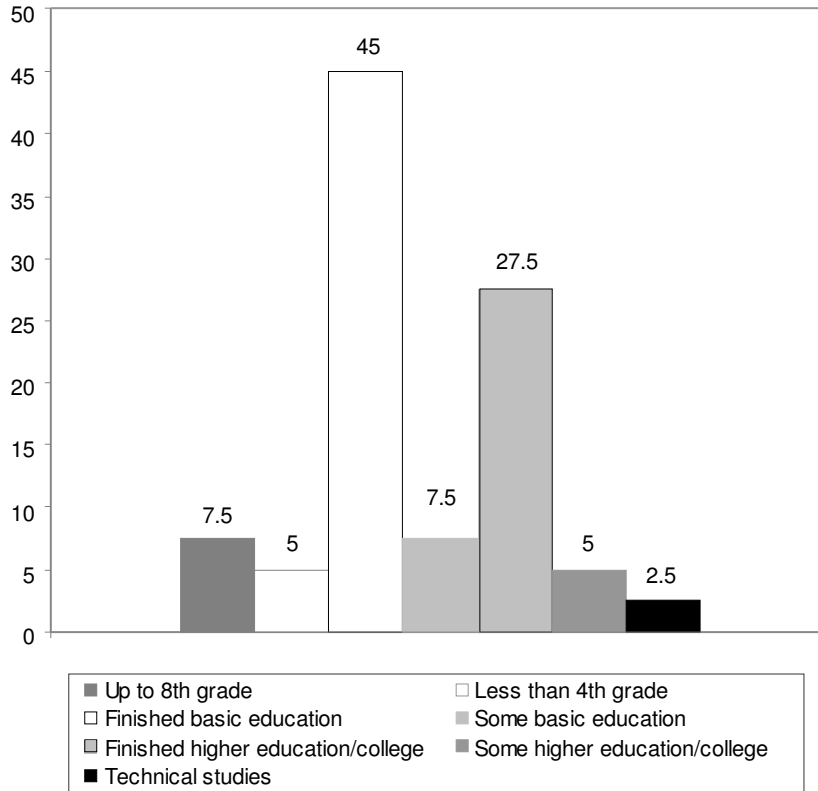
Wage Level per Respondent (Reales)

Wage Level	Respondent	%
Up to 500	2	05.0
From 501 to 1,000	19	47.5
From 1,001 to 1,500	11	27.5
From 1,501 to 2,000	4	10.0

From 2,001 to 2,500	1	02.5
From 2,501 to 3,000	1	02.5
No response	2	05.0
Total	40	100.00

GRAPH 1

Educational Level of Interviewed Workers



Time of Service versus Wage

The research showed that the wage level is low: 52.5% of the employees were receiving 1,000 reales or less, and 5% were receiving 500 reales or less. Only one worker was earning a wage over 2,501 reales.

The time of service in the company did not seem to determine a higher wage, since the highest wages were earned by employees with between two and five years of seniority; employees with more than sixteen years of seniority were receiving between 501 and 1,000 reales. Thus no tendency is seen in the distribution of wage according to time of service.

Number of Previous Jobs versus Educational Level

The fieldwork showed that most of the employees (67.5%) had held more than four jobs. Of those who were on their first job (12.5%), all had completed their basic education or a higher level; the same was true for those on their second job. This could suggest greater stability for employees who have a higher educational level.

The fact is not confirmed, however, when examining the educational level of employees who had held five or more jobs. Of the eighteen workers in this category, thirteen had completed more than basic education, leading to the assumption that more schooling does not guarantee greater stability on the job, and that experience, independent from the level of schooling, is a tendency in the company studied.

Time of Service versus Courses Offered

Most of the respondents (70%) affirmed that the company offered courses to all workers; only 20.0% answered to the contrary, and the remainder did not know. Workers with between eleven and fifteen years of service show the highest percentage (88.9%) of those who indicated that the company offers its workers courses.

The smallest percentage (58.3%) was found among workers with two to five years of service. This may suggest that the company favors workers with more seniority when offering courses, when knowledge based on experience is valued. Also a confirmation of the tendency mentioned above.

Schooling and Job Duties

On speaking to one of the participants about the procedures of companies that hire employees with little education (use of physical strength, without minimum required conditions or rights), his reaction was not only disagreement, but also surprise. He responded, "These days no one is illiterate in companies. But there are many college graduates who earn little and sometimes occupy positions in the company that require only a basic education."

Arguing that the managerial structure of the hiring organization is based on an effective force of trained workers—engineers, technicians (with higher education), and assistants with at least a secondary education—the respondent claimed that it is almost impossible for a worker with little training to work in a large company. Since almost all company areas are computerized and use state-of-the-art technology, workers must have the necessary training to perform their jobs satisfactorily.

The same respondent affirmed, however, that in the case of subcontracted workers, a higher educational level does not prevent their exclusion from social and employment rights, or the precariousness of their work conditions, whether objective or subjective. While a subcontracted worker may carry out the same duties as a permanent employee, the third-party worker earns less than one-half of the wages of company employees. Such factors generate social conflicts at the workplace among permanent and third-party workers.

The situation is studied by some authors, such as Antunes (1995) and Druck (1999), who call it the "segment of workers of two statutes": the first category (stable workers with labor and social rights that have been preserved in part, although some may be endangered), and the second category (precarious workers without stability or consolidated labor rights).

Not all the accounts obtained from the respondents were in agreement. Some expressed that the infrastructure of the subcontracted company does not offer adequate training conditions because it requires workers to perform in unfamiliar areas. The result is constant exposure to danger and accidents, due to workers' lack of knowledge of machinery, tools and services. According to the participants, such managerial procedures represent more than 90% of the accidents that occur while they are on the job.

Training Programs

According to previous research (Fartes, 2000), permanent workers frequently participate in courses, training sessions and other on-the-job training provided by specialized personnel contracted for in-house training or at training centers away from the workplace.

In the case of third-party workers, the respondents declared that companies try to recruit trained individuals who are “ready for the market”. For this reason, it is very unusual for a subcontracted company to offer its employees training. Only some large companies that are highly computerized train workers who are already well-educated; in the small companies, the employees finance their own training.

The respondents also stated that third-party employees who work in different areas without receiving adequate training are called “wild cards”: their movement among areas, without proper training, makes them more susceptible to accidents on the job.

Contractual and Labor Relations

The practice of third-party employees used by companies in their restructuring process has resulted not only in the precariousness of the material conditions of employment, but also the fragmentation of collective identities caused by the frequent threat of unemployment, by discrimination and by individualization in labor relations. The comments of one of the union leaders alludes to this condition: “Before, when a worker finished his task, he would try to help his co-worker. Not today. With this perverse economy, everyone wants to guarantee his own job.”

The situation contributes to a weakening of the worker’s subjectivity, since employees with different status and consequently, different rights, interact at the workplace. This reality can be seen concretely and symbolically in the use of separate bathrooms and eating areas. Another example is the type of tasks carried out by the third-party or subcontracted worker, who does heavier work at lower pay than the permanent employee in the same job.

These facts make very clear that third-party employment, in addition to leading to the precariousness of material conditions, creates among co-workers an atmosphere of disintegration, distrust and discrimination in the company, and endangers relations among direct and indirect workers. The union leader quoted above emphasized the limitations of such relations: “Oil and water don’t mix.” The interaction of permanent and subcontracted workers is ruled by a game of power, hierarchy and discrimination: “The third-party worker undergoes an identity crisis in the company.”

Final Considerations

The employees of third-party companies suffer from a severe process of precariousness on the job, both objectively and subjectively, with implications on their professional training. In the case we have presented, in spite of the wide diversity and heterogeneity of the workforce (depending on the size and type of company), subcontracted companies do not invest in their employees’ education. Instead, subcontracted companies prefer to hire workers who have already obtained experience from schooling (formal, in regular courses, or non-formal, in courses taken on their own) or experience gained informally on the job. Many of these workers have diplomas from higher education, but are in jobs requiring a lower educational level. Those who occupy positions compatible with their education, collect wages lower than permanent company employees who hold the same job.

Although researching employees’ working conditions was not a principal objective of this study, relevant data in this regard was obtained: most of the workers have no

health insurance, do not have safety equipment that is in good condition, and very often are the victim of accidents, at times fatal.

On the other hand, a severe process of segmentation was observed at the workplace. Certain locations in the company cannot be accessed by subcontracted personnel, such as dining areas, dressing rooms, specific entries and exits, and the bank in the refinery. Because of their devaluated social and professional status, they refuse to be identified as “oil workers” – to the detriment of their collective efforts.

The results of this research do not expect to be interpreted as paradigms applicable to all the training demands of a large and diversified workforce, but they do hope to facilitate and encourage new suggestions and further discussion.

Notes

¹ A technical term of managerial language that means the removal of an obstruction, or the widening, liberation or acceleration of a process or proceeding.

² In Brazil, the most widespread type of third-party services is subcontracted companies, or *shitauke geisha* in the mentioned case.

³ At the time the study was carried out, the minimum wage in Brazil was 260 reales, equivalent to a little more than 80 dollars.

⁴ In Brazil, basic education is completed at the end of eighth grade.

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