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Articles

Human resources management in the water utilities of Hermosillo and Mexicali

Gestión de recursos humanos en organismos de agua de Hermosillo y Mexicali

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Abstract

This paper studies how the Human Resources Management Systems (HRMS) influence the performance of water utilities in Mexico. The differentiated performance of the water utilities of the cities of Hermosillo and Mexicali were compared to their HRMS characteristics through the analysis of four categories: *1*) Hiring policies, *2*) Development and training, *3*) Salaries, benefits and incentives, and *4*) Sanctions systems. The main differences between these utilities are on categories 2 and 3, where Mexicali shows greater levels. The study provides a vision of water utilities from the point of view of HRMS, which has not been taken into account in previous research. Although Mexicali provides its workers with better training and incentives, it is observed that the influence of local governments and the excessive power of unions have led to weak HRMS that affect the performance of water utilities.

Keywords: human resourses management system, water utilities, efficiency, patrimonialism, performance.

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Resumen

Este estudio investiga cómo los Sistemas de Gestión de Recursos Humanos (SGRH) impactan en el desempeño de los Organismos Operadores de Agua Potable (OOAP) en México. Se comparó el desempeño diferenciado de los OOAP de Hermosillo y Mexicali con las características de sus SGRH

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a través del análisis de cuatro categorías: *1*) Políticas de contratación de personal, *2*) Desarrollo y capacitación, *3*) Salario, prestaciones y estímulos, y *4*) Sanciones. Las principales diferencias se encuentran en las categorías 2 y 3, en donde Mexicali cuenta con niveles más altos. El estudio aporta una visión desde los SGRH, variable que no se ha analizado a profundidad en el estudio de los OOAP. A pesar de que Mexicali capacita e incentiva mejor a sus empleados, se observa que la influencia del poder ejecutivo y la excesiva injerencia de los sindicatos han contribuido en la configuración de un endeble SGRH que afecta al desempeño de ambos OOAP.

Palabras clave: sistema de gestión de recursos humanos, organismos de agua, eficiencia, patrimonialismo, desempeño.

Introduction

The Mexican water utilities show serious setbacks in their performance, compromising both their environmental and financial sustainability (Salazar & Lutz, 2015). This puts in jeopardy the supply of potable water in the cities, especially those that have less natural water availability, such as those located in the north of the country which is an arid region, but which have an economic and population dynamism that makes adequate management of water resources more important every time.

Although different factors that influence the performance of the water utilities have been identified, there is a lack of studies that focus on the analysis of the management of human resources. Previous studies (see, for example, Lutz & Salazar, 2012; Pineda & Briseño, 2012) have been limited to noting the number of employees per thousand water outlets and the discretional nature that prevails in the appointment of the management staff, however, they have not gone in-depth in the analysis of other elements that are key in understanding the performance of the bureaucratic system, which is what operates the potable water systems and is directly responsible for their functioning.

Based on the results of an analysis of the Human Resources Management Systems (HRMS) of 29 cities in the United States of America, through unionization variables and government structure, Kneedler, Selden and Ingraham (2000) found that the cities where a traditional government persists with a high unionization level do not have a very efficient management system, and that the rules that persist hinder the hiring of qualified personnel. Furthermore, they lack incentives to stimulate the permanence and performance of the workforce. In these circumstances, the unions try to influence both the hiring of personnel and the rewards system, preventing the most qualified personnel from being hired. If this situation is present in a country of long democratic tradition and with a long-lived career civil service, it would be expected for these problems to more profoundly affect public management in a young democracy, as is the case of Mexico, and with little civil service development, mainly at the level of local governments which is where the management of potable water develops.

The purpose of this article is to carry out an exploratory study regarding the characteristics of the HRMS of two water utilities from the north of Mexico with different performances, in this case Agua de Hermosillo and the Comisión Estatal de Servicios Públicos de Mexicali (CESPM) through a four-category analysis: *1*) Staff hiring policies; *2*) Training and development; *3*) Salary, benefits, and incentives;

4) Sanctions. The study departs from the hypothesis that the HRMS are influenced by factors such as the interference of the chief executive and the unions, which obstructs the implementation of a career civil service of a meritorious character that in turn affects the quality of the water supply.

Both water utilities have similar geographic, demographic, and socioeconomic conditions: they are located in the arid north of Mexico, in municipalities where in summer the temperature frequently surpasses 45ºC; according to the National Population Council (Consejo Nacional de Población [Conapo], 2015), Hermosillo and Mexicali are listed as municipalities with a low degree of marginalization. Furthermore, these two utilities are responsible for supplying water to similarly sized populations in conditions of scarcity. However, the performance has been different, given that in Mexicali there are less water loses and it maintains a constant supply, whereas in Hermosillo there is a high level of unaccounted for water and it has had to resort to rationing in some years. The perception of the customers reflects these differences in performance: according to the data of the National Survey of Quality and Governmental Impact (*Encuesta Nacional de Calidad e Impacto Gubernamental* ENCIG) (Instituto Nacional de Geografía y Estadística [Inegi], 2015), 97% of the interviewees in Mexicali noted that the supply is constant, 87% that the water is crystal clear, and overall gave a score of 8.5 to the potable water service. On the other hand, only 72% think that the supply is constant in Hermosillo, 67% that the water is crystal clear, and overall gave an average score of 6.7 to the service.

The institutional political context of both water utilities presents some differences: in the state of Baja California there has been political alternation in the governorship and in the municipal presidencies since 1989, whereas in Sonora it was not until 2009 that a party other than the PRI (*Partido Revolucionario Institucional*) took the governorship, although in Hermosillo the alternation in the municipal presidency is frequent since the 1990s. Furthermore, CESPM is a state-owned organism whereas Agua de Hermosillo is owned by the municipality. However, these differences are not enough to explain why the performance of Mexicali has been better; it is necessary to do an in-depth study of the factors that influence the management of the water resources in both water utilities, with the personnel responsible for the water management in these municipalities being a key element.

The study period for this investigation spanned from 2003 to 2012, during which time bibliographical and hemerographic work was done, as well as interviews with functionaries of the CESPM, and representatives or members of local political parties. In the case of Hermosillo, it was not possible to interview functionaries of the utility, but information was obtained through interviews with key informants, among them an ex-member of the Advisory Committee of Agua de Hermosillo and the President of the Customers' Union of Hermosillo. Finally, an analysis was carried out on the Collective Work Contracts (*Contratos Colectivos de Trabajo* [CCT]), for both the CESPM and Agua de Hermosillo, as well as on the public accounts and information requests.

On the other hand, a comparative study provides the opportunity to compare two objects of study, but also limits the depth of the analysis. In this sense, the human resources management system is a rather broad concept that entails the detailed analysis of various categories[1], however, and considering the impossibility of analyzing

[1] Therefore, the analysis and description of the posts, evaluation of posts, hygiene and security, among others, were left out of the analysis.

each one of them, the four aforementioned categories were selected, as these are the ones that more clearly reflect the main obstacles that the public organizations face in the implementation of an efficient human resources management system.

Although there are other elements that influence the performance of the water utilities, this work is limited only to the analysis of the HRMS, for which there have been few studies; however, these are fundamental in the operation of the potable water systems. The study was divided into four parts. In the first one, the characteristics and the performance of the water utilities of Hermosillo and Mexicali are presented; in the second, a general outline of the HRMS in Mexico and in the rest of the world is presented, as well as some successful cases in the water sector in Asian countries; in the third, the HRMS of the water utilities of Hermosillo and Mexicali are examined and compared using the four aforementioned categories. The conclusions follow in closing.

Characteristics and performance of Agua de Hermosillo and the Comisión Estatal de Servicios Públicos de Mexicali

The reform on potable water implemented at the end of the '80s in Mexico, focused on the expenditure and its impact on the performance of the utilities. To this end the policy of Comisión Nacional del Agua (Conagua)—the federal agency in change of water policy in Mexico—is summarized in the following objectives:

1. Expand the coverage and quality of potable water and sewage.
2. Improve the physical and commercial efficiency of the utilities.
3. Increase the income of the utilities per water consumption.
4. Clean and/or treat residual waters (Conagua, n.d.).

Two decades later, advances can be seen, especially with regard to coverage and sewage, where it increased from 70% in 1990 to 90% in 2012; likewise, the treatment of residual waters increased from 28.1% in 2002 to 51% in 2012. Whereas they maintained similar performance levels in other factors, such as with global efficiency which was reported at an average of 43.8% in 2002 and of 43.2% in 2012, or the cost-price ratio, which had a deficit of 3.3 pesos in 2012 and increased slightly in 2012 to 3.6 pesos (Programa de Indicadores de Gestión de Organismos Operadores [PIGOO], Instituto Mexicano de Tecnología del Agua [IMTA] y Secretaría de Medio Ambiente, Recursos Naturales [Semarnat], n.d.).

This performance is unsatisfactory, given the fact that large quantities of resources were invested. In 1991 the investment was of 2 563 million pesos, but it was not until the year 2000 that it increased by 65%. Starting in 2003, the investments reach quantities of more than 7 000 million pesos per year. In 2012, the figure reached 34 287.9 million pesos, of which 67% were federal funds (Conagua, 2013). This information indicates that, in general terms, the physical, financial, and environmental self-sustainability remains a goal that is difficult to reach. However, we have found utilities that have managed to obtain satisfactory results.

Considering these precedents, and understanding that diverse variables intervene in the performance of the water utilities, the study departs from the fact that the water utilities of Hermosillo and Mexicali present different results, in spite of sharing some similar characteristics such as geography, climate, rainfall, and a similarly sized population. The performance of these water utilities was determined using the average of the four

categories indicated by Conagua: service coverage (including water, drainage and sewage, and continuity of service); efficiency (physical and commercial); financial sustainability (income minus expenses) and environmental (treatment of residual waters) sustainability. Table 1 shows that the performance of Mexicali has been much better than that of Hermosillo. Below, some general aspects are shown that explain this difference.

Table 1: Performance of the Water Utilities of Mexicali and Hermosillo during the period of 2003 – 2012

Indicator/ Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2003-2012
Coverage of Hermosillo (%)	98.3	90.3	81.7	90.0	98.4	98.4	98.5	81.8	81.8	81.6	90.1
Coverage of Mexicali (%)	93.7	97.3	97.5	97.8	97.8	98.0	98.0	98.0	98.0	98.1	97.4
Physical efficiency of Hermosillo (%)	78.2	73.4	75.5	72.4	54.8	56.2	56.4	62.8	65.3	60.7	66
Physical efficiency of Mexicali (%)	86.4	89.4	87.7	86.1	84.2	82.8	83.0	87.4	86.5	84.0	86
Commercial efficiency of Hermosillo (%)	58.1	66.7	71.2	80.1	85.7	82.8	83.4	75.0	79.1	79.3	76
Commercial efficiency of Mexicali (%)	85	88	91.7	90.7	91	82.1	81.3	78.7	84.3	84.8	86
Financial sustainability of Hermosillo (%)	n/d	n/d	n/d	n/d	n/d	1.7	-9.5	-24	-29.8	-6.5	-13.6
Financial sustainability of Mexicali (%)	n/d	n/d	n/d	n/d	n/d	20.9	8.2	7.9	1.6	-5.9	6.5
Environmental sustainability of Hermosillo (%)	8.8	10.0	11.4	11.0	10.9	11.8	10.8	13.3	17.1	14.8	12
Environmental sustainability of Mexicali (%)	57.0	65.3	61.9	57.8	85.0	92.5	93.9	99.7	97.3	95.9	81
									Average Hermosillo		46.0
									Average Mexicali		71.3

Source: Own elaboration using information from Programa de Indicadores de Gestión de Organismos Operadores (PIGOO) (n.d.), Agua de Hermosillo (n.d.) y CESPM (n.d.).

Coverage and continuity of the water service

One of the priorities of the water utilities is to supply water to the population in a continuous manner and to collect residual waters. The drainage and potable water system of Hermosillo has a broad coverage, however, in recent years it has faced serious problems to satisfy the continuous demand for water, which is covered mainly through the extraction of subterranean water sources. In the period of 2004–2006, the water rationing[2] was implemented for the first time in various sectors of the city, and during the period of 2003 – 2012 only 75% of the water outlets had continuous service

[2] Periodic suspension of the water service in intervals throughout the day.

(on average). In Mexicali, potable water comes from the Colorado river and service is provided seven days a week without interruptions. Regarding coverage, Hermosillo has a coverage of 90%, whereas Mexicali surpasses 97%[3].

Physical and commercial efficiency

Physical efficiency[4] indicates what percentage of water produced is effectively supplied to the population, having discounted the volumes of water lost in the distribution system—whether due to leaks or theft. The physical efficiency of Hermosillo and Mexicali are in significant contrast. The indicator for Agua de Hermosillo during the study period was of 66%, whereas for the CESPM for the 2003–2012 period, the physical efficiency average was of 86%. One of the reasons for the high losses of water in Hermosillo is the lack of control they have over the volumes of water that enter and are distributed by the potable water network. The macro measurement (that is, the percentage of water production sources that are equipped with a meter) of Agua de Hermosillo was of 61%, and from 2003 onward no improvement was observed, rather, there was a setback, as in 2012 the macro measurement was of 38%. The micro measurement (percentage of customers with a meter) also presents problems, given that in 2012 there was a 25% deficit of micro meters. Furthermore, of the 186 788 households with a meter installed, readings were taken from only 67%, which was due mainly to the underutilization of human resources, that is, Agua de Hermosillo adquired many meters, but did not restructure the measurement routes. In contrast, the macro and micro measurements in Mexicali are practically carried out at 100%.

Commercial efficiency is the percentage of collected volume with regard to the registered volume. To maintain a good performance on this point, the combination of both technical and political elements is required. The CESPM generally does a good job of planning its actions, its micro-measurement is high, and regularly updates its customer register. Furthermore, the equipment to take readings and invoice is effective. Up to this point, they have the necessary elements to reach a high commercial efficiency. However, the collecting policy influences in the case of default and overdue payments (Table 2), as such 86% of its commercial efficiency is only explained by the frequent cancellation policies regarding fines, surcharges, and debts[5].

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[3] Apparently, coverage and continuous service are directly related to supply sources, however, they also relate to the planning of the resource and the efficient use of the same. A brief analysis of its plans and programs shows that in Hermosillo, since the 2003 Municipal Development Plan (Infomex, information requests no. 00660514), they continue to repeat the same diagnostic and propose the same policies which can be resumed in the following: water scarcity, the construction of a large work to satisfy the demand of the city, as well as the recycling of residual waters. However, it is not until the state government period of 2009–2015 (period during which politicians of the same political party coincided at the three levels of government) when the implementation of an aqueduct was discussed and approved in order to satisfy the water demand of the city. To date, however, this aqueduct faces lawsuits pending resolution in the Supreme Court of Justice of the Nation (See Moreno, 2015). On the other hand, reviewing plans and programs of the state government of Baja California, advances and different proposals can be observed from one period to another.

[4] Physical efficiency (EF): EF = (Registered volume / Produced volume) X 100.

[5] According to Decreto del Ejecutivo del Estado, mediante el cual se condona a los usuarios (2014, pp. 4-5):

Table 2: Default in Hermosillo and Mexicali in the period of 2003-2012 (%)

Indicator/Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2003-2012
Payment on time Hermosillo	64.0	74.5	74.4	72.2	75.4	72.8	72.5	75.5	73.1	73.4	73
Payment on time Mexicali	19.0	18.2	17.1	16.2	16.6	15.7	15.9	16.4	17.0	17.2	17

Source: Own elaboration with information from PIGOO (n.d.), Agua de Hermosillo (n.d.) y CESPM (n.d.).

Hermosillo has problems with water measurement, its customer register is not reliable (currently, the register is in state of updating, and though they have the infrastructure and technology to facilitate billing and collection, the lack of planning to provide follow-up to the report of failures and poor planning in the design of routes for the measurement of consumption and the delivery of bills, all have contributed to its low commercial efficiency. On the other hand, during the study period a timely payment of 73% was registered, which is high considering the 70 270 complaints presented in 2012 due to poor billing. Furthermore, it also presents deficit in collection management. The yearly average in commercial efficiency for the study period was 76% for Hermosillo, whereas it was 86% for Mexicali.

Financial sustainability

In the financial sustainability evaluation, information was gathered only for the period of 2008–2012. According to the data in Table 1, Hermosillo traditionally works on red numbers, though in the last year it presented a slight improvement registering a deficit of only 6.5%, while a year prior the deficit was of almost 30%. The unprofitable operation of Hermosillo derives from the low efficiency levels with which it operates, as its high losses of water increase the costs of operation, and the low collection negatively influences its income.

In 2008, Mexicali had a 20% surplus, but this decreased in the following three years culminating in a deficit in 2012. This situation is explained by three factors: first, the payment of credits increased; second, the earthquake that affected the municipality in 2010 caused resources that were programed for the utility to be reassigned to other areas; third, the frequent surcharge, fines, and debt exception policies implemented by the state government have undermined the state's income.

Environmental sustainability

Since its creation in 2002, Agua de Hermosillo showed the intention to build residual water treatment plants, however, up to 2012 this has continued to be a pending issue.

The domestic service customers are exempt from 100% (one-hundred percent) of the payment of the contributions omitted for water consumption costs (...), as well as 100% (one-hundred percent) of the surcharges and fines derived from said contributions for the services provided by the State Public Utility Commissions that were generated up to December 31st, 2012.

For its part, CESPM has been working for more than a decade on the treatment of residual waters. In 2003, it treated a little more than 50%, but starting in 2009 it treats almost all the water it collects. However, drainage and sewage in 2011 represented an 83.5%, indicating that not all the residual waters generated in the city are treated.

According to the performance shown by the two utilities, where Mexicali has better results, the following questions come up: Are there great differences between the HRMS of the CESPM and Agua de Hermosillo? What are the characteristics of the two HRMS and what priority does it have for the utilities to establish staff management systems of a meritorious character? Are the practices and the configuration of the HRMS reflected in the performance?

Characteristics of the Human Resources Management Systems of the public sector in Mexico and the world

The term "patrimonialism" was coined by Max Weber to describe situations in which the managerial and administrative staff of an organization is designated by a supreme leader (denominated patron), and responds only to this leader (Brinkerhoff & Goldsmith, 2002). Different studies in Latin American countries (Grindle, 1977; Mansilla, 1991; Oszlak, 1980; Roth, 1968) warn of patrimonial characteristics in the exercise of political power, which means that the functionaries owe their permanence and loyalty to the person who assigned them and therefore, said leader arbitrarily decides both the design of the hierarchical structure as well as the staff that shall occupy each of the posts. In a patrimonial structure, the incentives of the functionaries are aligned with the political interests of their patron and not with those of the organization where they work, thus affecting performance.

Patrimonial practices take place when there are conditions for political discretion in the management of the HRMS. Meyer-Sahling (2004) defines a low level of political discretion as that in which the structure of the civil service makes it virtually impossible for the governments to interfere in affairs that concern the HRMS of the public administration, which is under the authority of administrative and independent actors who operate under a dense network of rules, procedures, and standards that ensure the professionalism of the public service.

With the purpose of promoting the establishment of a HRMS of a meritorious character in the region, in 2003, the Latin American Center of Administration for Development (*Centro Latinoamericano de Administración para el Desarrollo* [CLAD]) and the Department of Economic and Social Affairs of the United Nations, presented the *Ibero-American Charter for the Public Service*, among others, to "define the bases that configure a professional and efficient public function system, understanding that this is key in the democratic governance of contemporary societies, and for good public management" (*Carta Iberoamericana de la Función Pública*, 2003, p. 5)[6]. The document encourages avoiding the patrimonialization of the administration by implementing measures that guarantee independence and impartiality in the appointments and in the development of the activities of the functionaries.

[6] Approved by the 5th Ibero-American Conference of Public Administration and State Reform Ministries. Backed by the XIII Ibero-American Summit of Chiefs of State and Heads of Government (Resolution No. 11 of the "Declaration of Santa Cruz de la Sierra") Bolivia, November 14-15, 2003.

The Mexican government has not been idle in light of these initiatives and has tried to modernize and configure an effective and efficient HRMS. However, the results have not been as expected as there has been a lack of clarity in identifying both the objectives as well as the means to achieve them. In this sense, the reforms of the 1970s aimed to professionalize bureaucracy, whereas the reforms of the '80s focused on saving resources following the reduction of personnel from the state government payroll (Oszlak, 2002). Likewise, it is worth noting that, traditionally, Mexico has stood out due to the permanent rotation of trusted employees after each electoral process[7].

In the '90s changes were undertaken to improve the competitiveness of the companies through labor flexibility, thus the state-owned companies (especially those that were in the process of privatization) were the ones that underwent more in-depth changes in their CCT, giving way towards labor flexibility.

> Some common subjects of contractual flexibility in these plants are: freedom for the management to employ temporary workers or use subcontractors; freedom to hire trusted employees; internal mobility of the workers; hierarchy reduction and broadening of the functions of the posts; promotion not due to seniority, but to performance or training (Garza, 2003, p. 2).

Although these policies emerged in response to the power of the unions[8], the new proposals intended to provide the administration with the means to design management models of a meritorious character, but above all they sought to protect the benefit of the administration. In this sense, the primary measures that were taken by the organizations to reduce their financial deficits were to reduce the number of employees per thousand connections. Thus, Agua de Hermosillo reduced this indicator from 4.4 in 2003 to 3.4 in 2012, whereas for CESPM the decrease was from 5.25 to 3.49 for the same years[9]; as can be observed, this adjustment was greater for the utility of Mexicali.

Another point of view in the management of human resources highlights the importance of providing job stability to the personnel, advocating for reciprocal agreements between the company and the unions in order to design strategies that satisfy both the interests of the company as well as those of the employees (Camacho, 2014). A study published by the Inter-American Development Bank (IDB) coincides with this posture by noting that:

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[7] In the 1970s, a study carried out by Marilee Grindle (1997) documented this situation which, while it is advocated to analyze the client relation between employer-employees generated in the federal sphere as a product of the six-year term change, also serves to exemplify what happens in the election of governors and municipal presidents.

[8] Given that before the reforms of the 1990s, the management system that prevailed in the public organizations was characterized by the presence of a "strong" union, which sought the greatest amount of benefits for its members and/or union leaders, but without the compromise to increase the performance of the worker.

[9] Aboites, Birrichaga and Garay (2010) note that a significant change as a result of the reforms of 1982 took place in 1985 through a fiscal reform; the federal government restricts expenditure with regard to potable water and sewage, and increases the prices for water use.

> The role of human resources management is in charge of planning and the control of human resources in order to ensure that they meet the needs of the people in such a manner that they can work to achieve the organizational objectives (Lusthaus, Adrien, Anderson, Carden & Plinio, 2002, p. 61).

This proposal advocates building an adequate management system where, by prioritizing the needs of the employees, it simultaneously prioritizes the fulfillment of the organizational objectives. In 2003, the Professional Career Service Law is enacted in Mexico, but is only applicable to the federal public administration; therefore, the underdevelopment and bad habits persist and are more visible in the local environment, which is where the management of potable water develops in Mexico.

Important reforms on the HRMS of the public sector have also been carried out outside of the Latin American context, with mixed results. Moon and Hwang (2013) did a comparative study on the career civil service of a sample of countries from the Asia-Pacific region, in which they observed that the efforts to reform the civil service were directed towards the reduction of personnel, flexible contracting, performance incentives, and the fight against corruption. Most of these countries have meritocratic exams and systems for access to the civil service; however, corruption and patrimonialist practices persist, especially in countries of southeast Asia (Indonesia, Malaysia, the Philippines, and Thailand), as well as in those countries that transitioned from socialism to a market economy (China, Vietnam, and Cambodia), that did not have a legal framework for the civil service prior to the transition. The problems in establishing HRMS disassociated from political discretion in ex-communist countries has also been documented for the case of eastern Europe, where Meyer-Sahling (2004) found that, despite the transition, the discretional mechanisms of entry to the public sector that had been utilized during the communist regime as a means to ensure that the public servants were loyal to the government and its ideology persist. The new governments that emerged from the transition did not trust the bureaucrats of communist governments and preferred to hire personnel from among their own political networks, which has caused the attempts to reform the civil service in these countries to not have the expected results.

In the case of the potable water organizations, Tortajada (2006) notes that the water utilities fail in their HRMS mainly due to:

1. Patrimonialist practices, given that the personnel is hired due to their political connections instead of their technical capabilities, which in turn leads to an excessive increase of personnel.

2. Low remuneration that hinders hiring and maintaining the best elements in the organization, in addition to generating an environment that enables corruption.

3. Salary increases and promotions based on seniority and political connections instead of merit.

Tortajada notes that these problems are common in most water utilities throughout the world (Tortajada, 2006). Nevertheless, there are exceptional organizations, as is the case of Singapore (one of the most efficient water utilities in the world), where there are incentives comparable to private companies. Incentives are provided to improve performance, and there is an important commitment with the training of the personnel. Furthermore, there are strict controls and transparency mechanisms to prevent corruption.

As part of the experience of Asian countries, it is worth mentioning the case of Phnom Pehn, capital of Cambodia. During the communist dictatorship (1979-1993), thousands of the city's inhabitants were dislodged and forced to work the fields. When the dictatorship ended, many people returned to a city with a hydraulic infrastructure that was in ruins. The water utility operated with high losses of water and had very low collection levels. In 1992, the prime minister of the country assigned Ek Son Chan as the director of the water utility, who was given full autonomy to make decisions; because of this, he was under no pressure to designate people based on political criteria. Chan carried out a purge of corrupt personnel and created incentives for the personnel that remained in the organization. This policy had a great impact in the increase of collection in the organization, given that the collection reached the water utility instead of filling the pockets of the collectors that were fired, whereas the collectors that remained in the water utility received bonuses due to their efficiency, which placed them at a very attractive income level for the region (Biswas & Tortajada, 2009).

The Human Resources Management Systems in the water utilities of Hermosillo and Mexicali

In the literature regarding personnel management, various attributes are mentioned that must be taken into consideration in order to define a human resources system[10] of a meritorious character[11], however, in light of the impossibility of reviewing them all, for the development of this work the following were selected: *1*) Personnel hiring policies; *2*) Training and development; *3*) Salary, benefits, and incentives; and *4*) Sanctions.

Personnel hiring policies

The employees that work in the water utilities of Hermosillo and Mexicali are mainly classified into two types: unionized (operational staff) and trusted (managerial and

[10] According to Lusthaus et al. (2002) "Human resources management includes the planning, execution, and supervision of the work force of the organization". For Longo (2004, p. 4):

> Human resources management (HRM) is presented as an integrated management system, whose basic purpose or rationale is the adjustment of the people to the strategy of an organization or multi-organizational system, for the purpose of generating results that are in accordance with the objectives being pursued.

For this study, we define HRMS as: The set of rules and procedures directed to design and implement the hiring, selection, salary, benefits, and sanction policies meant to cover both the needs of the personnel as well as the fulfillment of the organizational objectives.

[11] Lusthaus et al. (2002) checks five sections to establish an efficient HRMS: planning, staffing, development, evaluation and rewards, and maintenance of effective relations. Likewise, the Ibero-American Charter of the Public Function (Carta Iberoamericana de la Función Pública, 2003) establishes a multitude of criteria and guiding principles to take into consideration to build a HRM model of a meritorious character, among which are the ones being studied here.

clerical workers)[12], and for each of these the legal framework establishes the guidelines that regulate the working relations between the worker and the organization.

General hiring policies for trusted employees

In 2012, the workforce of Agua de Hermosillo was comprised of 213 trusted employees (23%) and 708 unionized employees for a total of 921 employees. Regarding the job profiles, Article 65 of the Internal Regulation of Agua de Hermosillo (Reglamento Interior de Agua de Hermosillo, 2013, p. 26) stipulates that "the Manager Director, the directors, coordinators, managers, administrators, department heads, consultants, and other personnel that carry out inspection, vigilance, and fund management tacks are trusted employees".

Trusted employees are responsible for guiding the development of the organization, therefore the selection of trained personnel ought to be the standard, however, their assignment, as with the people that hold the highest post in the hierarchy, frequently answers to interests foreign to the municipality. That is to say, some are representatives of the state government or of other municipalities, and thus the margin that the director has to designate qualified personnel is rather restricted[13].

Within the posts categorized as trusted, only the general manager and the commissioner of the organization are required to have prior knowledge and meet a profile that is consistent with the job at hand, though the general manager for the period of 2012-2015 did not meet these requirements. Furthermore, every three years there is a high rate of staff rotation in the administrative area; for example, of the trusted employees that worked in the 2009-2012 period, only 43% continued to work in the organization in the 2012-2015 period even when the same party remained in power[14].

On the other hand, the Internal Regulation of the Mexicali Public Service Commission (*Reglamento Interno de la Comisión Estatal de Servicios Públicos de Mexicali,*

[12] According to article 154 of the Federal Labor Law, "any worker who is a member of any legally constituted union organization is perceived as unionized", whereas according with article 9, "the category of trusted worker depends on the nature of the functions exercised and not on the appointment given to the post. Trusted functions are the following: direction, inspection, vigilance, and audit tasks, when these are of a general character, and those that relate to the personal works of the employer within a company or establishment."

[13] In a talk, the ex-member of the Water Advisory Council in the El Colegio de Sonora, expressed the following:

> Reviewing the organization chart, (the Director of the Organization for the period of 2006-2010) and me analyzed all the employees one by one: …and all these people, how did they get here? This one was recommended by such and such (...) And the people that are working under the general manager?: I know that this person works for the mayor, and this other one for the secretary of government, and this one for such and such deputy, and this other person for (incomprehensible). I already knew of the sponsors for each one of them. So, who of them works for Agua de Hermosillo?

[14] Information retrieved from Telephone directory of municipal public administration 2006-2009 of the H. Ayuntamiento de Hermosillo 2006-2009; the Directorio del personal de confianza 2009-2012; and information requests to Agua de Hermosillo no. 00111615, March 9, 2015 recovered from Infomex (a comparison of trusted employees berween the two periods of government was made).

2007) does not explicitly establish the posts that are categorized as trusted nor the capabilities that the people assigned to them must have, however, its wording does allow to see that it coincides with that of Agua de Hermosillo. In this case, the trusted posts are the General Manager, Assistant Managers, Department Heads, and the Principals of the Support Units. The appointment of trusted employees is carried out by the principal of the executive power of Baja California and the high-level authorities of the organization. By depending on the state executive branch, the appointments are valid for a period of 6 years, even though in the 2007-2013 government term the principal of the organization was removed on four occasions[15] and in the current administration there have already been 2 managers, which also influences the rotation of trusted personnel. Of 33 people with management positions in 2011, only 58% continued working in CESPM in 2015, even when the same party remained in power (PAN). Furthermore, of 1 271 people that worked in 2012, 55% were trustwed employees, given that unlike Agua de Hermosillo, many of them are hired to execute operative tasks[16]. In general terms, there are high levels of political discretion on behalf of the principals of the executive power on both organizations, which prevents guaranteeing the permanence of the personnel that makes the most important decisions.

Unionized personnel hiring policies

The operational personnel of both organizations are affiliated to unions, which in turn are responsible for negotiating the worker benefits of its members with the managers of the water utilities through Collective Work Contracts (CCT). The unionized personnel of the water utility of Hermosillo are affiliated with the Union of Agua de Hermosillo, which in turn is affiliated with the Confederation of Mexican Workers (*Contrato Colectivo de Trabajo 2012*, 2012); on the other hand, the unionized workers of CESPM belong to the Sole Union of Workers at the Service of the Powers of the State, Municipalities, and Decentralized Institutions of Baja California, Mexicali Branch (*Contrato Colectivo de Trabajo 2012-2013*, 2012);

In the case of Hermosillo, when it requires temporary or fixed-term workers, it makes a request to the union which then has five business days to provide candidates; in the event of not presenting them, the organization can freely hire the person that it considers appropriate for the job, with the condition that within a period of eight days they request their entry into the union (*Contrato Colectivo de Trabajo 2012*, 2012, pp. 2-3). It also stipulates that the works provided by the union must fulfill the requirements found in the Job Description Manual and shall be subject to a test period no longer than 30 days in order to evaluate their capabilities. In the case of not satisfying the expectations, they shall be subjected to an evaluation by experts appointed by both the company as well as the union.

A similar criterion is in effect in Mexicali for the hiring of new personnel that is not trusted, with the difference being that the union has a maximum period of fifteen days

[15] Although Francisco Javier Orduño Valdez held the post of General Manager in two occasions, 2007-2008 and 2012-2013.

[16] CESPM through the information request Folio-UCT-152805, August 27, 2015 recovered from Infomex. In addition, it was verified the permanence of the revision of the staff of 2015.

to provide a candidate to the area of human resources with the condition that they comply with the profile required for the job[17]. Otherwise, the organization can hire someone with the condition that they shall subsequently request their affiliation to the Union (*Contrato Colectivo de Trabajo 2012-2013*, 2012, clause twenty-sixth).

The mechanisms employed for the hiring of unionized personnel interfere in the ability of the organizations to select ideal persons for the vacant positions, as it is limited to the proposals made by the unions. These measures affect the areas responsible for human resources management of the organizations by inhibiting the possibility of implementing innovative strategies to select qualified personnel, thus affecting the professionalization of the workforce.

Training and development

Another key mechanism to increase the administrative capacity is related to the training[18], development, and incentives system that an organization can offer to its collaborators, on the understanding that the greater the interest to identify the learning needs of the workers, providing incentives to reduce worker rotation, and offering opportunities to develop its human resources, the greater the possibility of professionalizing the bureaucratic device shall be.

Training and development in Agua de Hermosillo

The Internal Work Regulation of Agua de Hermosillo (*Reglamento Interior de Trabajo de Agua de Hermosillo*, 2013) defines the training policies and links them directly with productivity. The organization has the responsibility of implementing training programs both to develop the capabilities of the workers, in order to prepare them to occupy higher level positions, as well as to prevent work risks and raise productivity. This task is delegated to the Human Resources Department (HRD) (Manual de Organización de Agua de Hermosillo, 2011).

Formally, the Organizational Development and Training Department (ODTD) through the Detection of Training Needs (DTN) identifies the areas that need to be strengthened and selects the personnel that requires training (Programa Operativo Anual [POA] 2013)[19]. The DTN emerges from the premise that there is a deficit between the capabilities required for the execution of a task and the abilities an employee has. However, it can be observed in Table 3 that there is no follow-up to the training program

[17] Manuel Guerrero. Union delegate of CESPM, expressed that recently the CESPM hired directly without doing the corresponding procedure with the union. Interview in Mexicali, B.C. January 2014.

[18] According to Chiavenato (2007, p. 386):

> Training is the short-term educational process, implemented in a systematic and organized manner, through which people acquire knowledge, develop abilities and competences in relation to defined objectives. Training entails the transmission of specific knowledge related to the work, attitudes with regard to aspects of the organization, the task and the environment, as well as the development of abilities and competences.

[19] This activity is carried out by the Training Department.

given that of the thirteen activities indicated in the Annual Operational Program[20] (AOP), only in four of these was (+/-) 20% of what is programmed carried out.

Table 3: Training activities implemented by Agua de Hermosillo 2009-2013 through the AOPs

Annual Operational Program 2009-2013				Yearly goals		
Year	Description	Unit Responsible	Unit of Measurement	Programmed	Executed	Fulfillment %
2013	Assistance to different training events	Administrative Audit	Course	8	14	175
2013	Assistance to different training events	Project Audit	Event	5	5	100
2013	Comply with access to training and certification of systems personnel	Systems	Certificate	11	1	9
2013	Training program	HR	Report	26	27	104
2013	Training Needs diagnoses	HR	Report	3	2	67
2012	Program training courses based on the authorized resources	HR	Hours / Man / Training	4	1.5	38
2012	Attend different types of training	Administrative Audit	Review	1	12	1 200
2012	Attend different types of training	Project Audit	Event	3	6	200
2011	Training to the personnel in customer service	Of. Com	Person	343	193	56
2011	Training program	HR	Event	12	11	92
2010	Training to the personnel in customer service	Of. Com	Person	40	0	0
2010	Carry out DTN diagnosis	HR	Document	1	1	100
2010	Training courses and workshops	HR	Course	0	0	n/a
2009	Carry out DTN diagnosis	HR	Document	1	0	0

Source: Own elaboration with information from Instituto de Transparencia Informativa del Estado de Sonora (Ities) (2017).

These failures are not exclusive to the ODTD, given that the various areas that program training activities also did not comply with the program. For example, in 2013, the Administrative Audit programmed eight training courses and carried out fourteen, the Systems area programmed 11 activities though in the end it only carried out one; likewise, training for forty customer service people was programmed, but no training was done. This information helps to explain why the employees of Agua de Hermosillo are not prepared for customer service. The systems area complied with only 1 out of 11 programmed certifications. Only Project Audit programmed and executed five training events (POA, 2013).

[20] According to *Instructivo para la Formulación de los Programas Operativos Anuales 2015* (2014, p. 4):

> The Annual Operational Programs are the budget programmatic instrument for the execution of the plan and development programs; they regulate the public administration activities for the respective year, establishing objectives, indicators and goals, and serve as a base for the formulation of Draft Budgets.

On the other hand, in the transparency portal of the organization, section *Comparison Management System*, the Sonora Water Commission (*Comisión Estatal de Agua de Sonora* [CEASON] places various courses at the disposal of Agua de Hermosillo, indicating to it the number of employees that can attend, however, the organization does not have a record of the personnel that attends these courses. This indicates that no follow-up is given to the training of the personnel, and as such it is not clear how the organization links training with productivity or based on what criteria the programs are designed with the needs that the personnel actually requires.

Regarding development, the CCT notes that the vacant posts are covered in accordance with the Regulation of the Structured Joint Commission (*Reglamento de la Comisión Mixta de Escalafón*) establishing that the worker shall be subjected to a test period of thirty days, and in case of not satisfying the evaluation, the worker that came in second place shall be accredited (*Contrato Colectivo de Trabajo 2012,* 2012, p. 3). With these measures, it is intended to formally link training with development, for which it is also necessary to program the courses required by the employees and to plan the schedules so that they can attend; this, of course, without neglecting the development of the everyday activities they carry out. Table 4 shows the training subject matters, categorized into five groups, that the personnel received for the 2011-2013 period.

Table 4: Training for the employees of Agua de Hermosillo 2011-2013

	2011		2012		2013		Period Average		Total	
Subject	Hours	Attend.*	Hours	Attend.	Hours	Attend.	Hours	Attend.	Hours	Attend.
Computing and/or software handling	2	4	0	0	10	40	4	15	12	44
Understanding and management of technical resources	12	69	12	101	64	1 160	29	443	88	1 330
Prevention and safety	4	10	4	45	22	298	10	118	30	353
Personal growth, induction, and teamwork	62	392	39	587	32	1 015	44	665	133	1 994
Fiscal and administrative matters	0	0	1	35	44	302	15	112	45	337
Others	0	0	0	0	3	677	1	226	3	677
Total	80	475	56	768	172	2 815	103	1 353	308	4 058

Attend.*: Number of attendances.

Source: Own elaboration with information request to Agua de Hermosillo no. 00193514, April 30, 2014 recovered from Infomex.

From Table 4, the following stands out: in 2011, 475 attendances were recorded for the courses, assuming that each one of these attendances represent only one participation, of the 921 employees only 52% received training. The high number

of attendees observed in the period (4 058) is due to the fact that in 2013, courses were carried out with a duration of two hours but with massive attendance, among them: "Water in common" (*Agua en común*) to which 661 employees attended, "I better do it right. My job" (*Mejor ando bien. Mi trabajo*) with 451 attendees, or "The 5 S technique" (*Técnicas de las 5 S*) with 265 attendees. The subject Personal growth, induction, and team work with an average of 1 994 attendees was the most crowded, representing 49% of attendance; followed by Understanding and technical resources management with 33% attendance. Regarding the time invested, it was these two subjects that had the most hours dedicated to them and in conjunction represented 82% of the training hours. Furthermore, 22 institutions and/or agencies participated in imparting the 91 courses of the period, though the water utility itself imparted 72% of the total.

Finally, the programmed time for training for the three years was of 308 hours, therefore, the task for the organization is to reconsider its training program, look to increase the number of hours, improve the diagnosis of training needs, make the training of all of its employees extensive, but above all, comply with the program.

Training and development in Comisión Estatal de Servicios Públicos de Mexicali

The Collective Work Contract of CESPM establishes that the organization "shall instruct and/or train the workers so that they can efficiently perform their tasks, as well as prepare them to obtain promotions in accordance with the Promotion Guidelines" (*Contrato Colectivo de Trabajo 2012-2013*, 2012, p. 10). The Administrative Assistant Management is the area in charge of complying with this commitment[21] through the Human Resources Department (*Reglamento Interno de la Comisión Estatal de Servicios Públicos de Mexicali*, 2007). However, employee preparation is not the only way to receive a promotion within the organization, given that in accordance with the CCT of the CESPM "it is obligatory to automatically promote any unionized worker who has remained static in a level comprised of 01ª to 10 to the immediately superior level for a duration of two years" (*Contrato Colectivo de Trabajo 2012-2013,* 2012, p. 20).

As in Hermosillo, the DTN is the method utilized by the Administrative Assistant Management of the water utility of Mexicali to design its training programs. Table 5 shows that they provide good follow-up to the training program, as practically all of the actions programmed in the AOPS in the period were executed with a (+-) 20% of the actions. On the other hand, the information[22] they presented was classified into five main topics.

[21] According to the Organizational manual of CESPM, among the tasks entrusted to the Administrative Assistant Management is the following: "Coordinate training and promote the growth of the personnel" (Manual de Organización General, 2013, p. 22).

[22] Request for information UCT-141017, April 30, 2014, CESPM, recovered from Infomex.

Table 5: Training activities implemented by the Comisión Estatal de Servicios Públicos de Mexicali 2008-2013

Annual Operational Program 2008-2013				Yearly objectives		
Year	Description	Unit responsible	Unit of measurement	Programmed	Executed	Fulfillment %
2013	Actions to help institutional strengthening	Administrative Assistant Management	Courses	43	n/d	0
2012	Actions to help institutional strengthening	Administrative Assistant Management	Persons	777	903	116
2011	Actions to help institutional strengthening	Administrative Assistant Management	Persons	662	662	100
2011	Formality of the notifications of the administrative actions	Planning	Courses	12	12	100
2010	Increase the quality of the attendance	Administrative Assistant Management	Persons	721	721	100
2009	Training for 89% of the personnel	Administrative Assistant Management	Persons	1 128	1 175	104
2008*	Qualify the personnel of the organization	Administrative Assistant Management	Persons	3 276	4 055	124

2008*: In this year, the number of employees programmed and trained increased considerably due to the seismic movements that occurred in February of that year and other courses that were of interest to all the personnel that works in the CESPM such as the course: Team integration for the personnel of CESPM, and The Value of Work.

Source: Own elaboration with information from: Portal de TransparenciaBC.[23]

According to Table 6, in 2013, of the 1 271 people that worked in the CESPM[24] only 53% received training (assuming that each of the registered attendees took only one training course), but unlike Hermosillo, they allocated 1 964 hours to the training. In the period of 2011-2013, the subject "Understanding and Technical resources management" was the most attended, with 995 attendances, representing 41% of the total; this was followed by "Prevention and Safety" with 19% attendance. Regarding the time invested, 38% of the total training time was allocated to the subject "Knowledge and Technical resources management". Additionally, 64 speakers participated in imparting the 147 courses (11 physical and 54 moral persons), of which 28% of the total were imparted by CESPM, followed by the Baja California Water Commission with 7%.[25]

[23] However, at the link http://dceg.bajacalifornia.gob.mx/Sasip/frmPublicacionesDeOficio.aspx?id=1045 only the years 2015, 2016 and 2017 are currently available.

[24] Request for information UCT-141017, April 30, 2014, CESPM, recovered from Infomex.

[25] Among those that standout are the following: CEA BC, UABC, COPARMEX, CONAGUA, The North American Development Bank, IMTA, CFE, Institute for Technical Development (INDETEC), among others.

Table 6: Training of the workers of the Comisión Estatal de Servicios Públicos de Mexicali 2011-2013

	2011		2012		2013		Period Average		Total	
Subject	Hours	Attend.	Hours	Attend.	Hours	Attend.	Hours	Attend.	Hours	Attend.
Computing and/or software handling	156	125	8	19	60.5	118	75	87	224.5	262
Understanding and management of technical resources	129	181	478	583	138.5	191	249	318	745.5	955
Prevention and safety	49	140	126	153	53.5	143	76	145	228.5	436
Personal growth, induction, and teamwork	60	60	6	84	50	172	39	105	116	316
Fiscal and administrative matters	303	172	192	43	41	53	179	89	536	268
Others	108	63	6	4	0	0	38	22	114	67
Total	805	741	816	886	343.5	677	654.8	768	1 964.5	2 304

Source: Own elaboration with information from Request for information UCT-141017, April 30, 2014, CESPM, recovered from Infomex.

This section shows that Agua de Hermosillo has a legal framework that allows the management of the organization to have better control regarding the promotion policies, as it provides means to promote the personnel while in turn requiring the capability to develop new functions. However, the organization has difficulties in complying with its training program, in addition to the fact that the courses it offers are limited, and in some cases, last less than two hours and are imparted in an undifferentiated manner to hundreds of workers. The training programs of the CESPM cover a broad variety of topics that allow its employees to choose according to their learning needs, however, the hierarchy system enables the automatic promotion in accordance with the criterion of seniority.

Salaries, benefits and incentives

The total cost regarding the remuneration that is received by a trusted employee in Hermosillo is of approximately 228 500 pesos a year (19 042.67 pesos a month). Of the employees, 213 are trusted and 708 are unionized, and these represent for the organization an annual cost (including salary and the incentives and compensations

system) of approximately 72 278[26] pesos a year for each one of them. That is, a trusted employee receives an average monthly income of approximately 316% more than a unionized employee. Considering both trusted and unionized employees, the average annual total remuneration received by an employee of Agua de Hermosillo in 2012 was of approximately 108 407 pesos (9 033 pesos a month).

Moreover, in the 2012 Global Balance Report per Object of Expenditure[27] of Agua de Hermosillo, the organization allocated $230 457 694 pesos for Personal services. Of these, 32% were allocated to the salary payment of 921[28] workers, which represented an average annual cost of 79 946 pesos per employee (See Table 7).

Table 7: Personal service expenditures in Agua de Hermosillo and CESPM for 2012

Concept	Agua de Hermosillo	CESPM
Number of employees	921	1 271
Number of unionized employees	708	566
Number of trusted employees	213	705
Personal services	230 457 694	507 847 785*
Payment of salaries	73 630 417	150 697 038
Average annual income per employee	79 946	118 566
Average annual base income per employee	72 278**	125 628
Average annual income per trusted employee	228 500**	112 896
Annual cost of the unionized personnel	n/d	443 154
Annual cost of the trustwed personnel	n/d	352 060
Annual cost of the personnel	250 226	399 566

*Includes the sum of 8 820 496 of the personnel classified as others.
**Estimation based on a salary scale consulted in the website of Agua de Hermosillo.

Source: Information request no. 76014 February 26, 2014, Agua de Hermosillo, Infomex and CESPM.[29]

In the case of Mexicali, the CCT of the CESPM (*Contrato Colectivo de Trabajo 2012-2013*, 2012) establishes the salary that each employee receives according to their post. In 2012, 150 697 038 pesos were allocated just to cover the salary of 1 271 employees,

[26] Calculation done with information from Agua de Hermosillo.

[27] Information request with folio 76014. February, 26, 2014, Agua de Hermosillo, Infomex.

[28] It was not possible to itemize the information by type of contract, as the information requested through Folio 182014. Was incomplete and confusing for the analysis. Agua de Hermosillo, April 2014.

[29] For online consultation http://cim.ebajacalifornia.gob.mx/CIM/Publicacion/Temporal/2014_4_7_8_2_3_14.pdf pero el año más reciente que aparece es el 2014.

which generated a yearly average of 118 565 pesos per employee. This payment represented 29.7% of the total cost of the Personal services partition. Regarding the cost for type of contract, the average yearly expenditure per unionized employee was of 125 628 pesos (9 408 monthly), whereas for the trusted employees it was of 112 896 (10 469 monthly). In comparative terms, with regard to the payment of salaries, the employees of Mexicali received approximately 32% more than those of Hermosillo.

Incentives and benefits

In Hermosillo, the CCT establish the work benefits that supplement the income of the works, these benefits sum up to a total expense of 126 271 728 pesos, which is 42% higher to the payment of salaries (*Contrato Colectivo de Trabajo 2012,* 2012).

In Mexicali, according to the CCT, the income of the workers is supplemented with the "Additional and special remuneration" and "Other social and economic benefits" that represent a total sum of 294 300 147 pesos, that is, a 49% higher to the amount allocated for the payment of salaries (*Contrato Colectivo de Trabajo 2012-2013*, 2012).

Expenditure on social security

The Water Utilities also allocate economic resources to cover the health services of its employees, as well as to ensure a source of income after their retirement. Among the main things are the following: medical service fees, other social security benefits; payments due to death, pensions and retirement, contributions to the Workers Savings Fund; compensations to the personnel, group insurances; among others. In Hermosillo, in 2012, 12.6% of the total payments for Personnel Services were allocated to this category.[30]

On the other hand, in Mexicali the expenditure allocated to cover the Social security contributions represented approximately 12% (61 274 993) of the Personal services category. Furthermore, in the Collective Work Contracts of the organizations, we found other benefits in favor of the workers that are superior those stipulated by the Federal Labor Law, regarding the working day and the vacation period. These benefits, though they do not directly impact in the salary, can signify a high cost for the organizations if the tasks needed to be carried out are not adequately programmed.

In addition, some of the benefits provided by the organization to the workers are received through the union. Table 8 shows a summary of the information provided by the organization regarding the payment they made to the unions. It is important to note that the full amount is not allocated to the workers, given that the unions use a percentage to cover its own expenses.

[30] Information request with folio no. 76014, February 26, 2014, Agua de Hermosillo, Infomex.

Table 8: Payments by the water utilities to the unions for the period of 2008-2012

Year	Agua de Hermosillo	CESPM
2008	1 389 896	5 774 678
2009	732 513	6 513 240
2010	1 337 682	6 035 626
2011	2 714 603	5 845 835
2012	3 433 014	5 569 288
Total	9 607 707	29 738 667

Source: Own information gathered from information requests no. 282514, February 26, 2014, from Agua de Hermosillo, Infomex and information requests no. 141330, June 26, 2014 from CESPM, Infomex.

While the average annual cost per employee at Agua de Hermosillo was of $142 003 pesos, in CESPM it was of $226 966[31] pesos. The average total costs of Personal Services for Agua de Hermosillo per employee was of approximately 250 225 pesos, whereas for each employee of the CESPM it was of approximately 399 000 pesos. This difference appears to substantiate the concern of the principal of the CESPM, as the cost it represents to the organization is approximately 62% greater to the cost per employee that it represents for Agua de Hermosillo. However, one must also analyze the benefits generated[32] from having an income (*ingreso corriente total percápita* [TCIPC]) above the TCIPC of Hermosillo and Mexicali, and which results in the almost non-existent rotation of unionized personnel and in the performance of their functions.[33] However, it is worthwhile noting that the expenses on Personal Services comprise a considerable portion of the expenses of both organizations: in 2012, Agua de Hermosillo used 36% of its egress budget to pay for this category, whereas CESPM allocated 44%[34].

Sanctions

Both in the CCT (*Contrato Colectivo de Trabajo 2012*, 2012) as in the Internal Regulation of Agua de Hermosillo (*Reglamento Interior de Agua de Hermosillo*, 2013) there are sections that specify the causes for sanctions to the workers, which range from admonishment to temporary suspension, all the way up to serious offences that can be reason for the termination of the individual work contract. In this sense, it is established that

[31] Includes average salary, temporary salary, social services to students and professionals, bonuses for effective years of service, seniority bonuses, sunday bonus, vacation bonus, christmas bonus, overtime and compensations.

[32] The municipal leader of the PRI in Mexicali, the journalist in charge of the news of the CESPM, and the representative of the Canaco before the Administrative Council of the organization, agreed in their conclusion that the organization does an acceptable job.

[33] A functionary of the CESPM mentioned that for many people of the city of Mexicali, it is motivating to work at the CESPM due to its work environment, and as such, once someone starts working there they try and do their best to remain within the state-owned organization.

[34] For the case of Hermosillo: Information requests no. 76014, February 26, 2014, Infomex; for the case of Mexicali: CESPM, from the Portal de TransparenciaBC.

in the case that a worker commits punishable offences, the organization shall issue the corresponding sanctions with the support of the union. It is also stipulated that in the case that the union sanctions a worker with suspension, the organization shall support these decisions. Chapter XIV of the Internal Regulation notes 29 prohibitions. Furthermore, Article 52 notes neglecting work as one of the causes for terminating a working relationship. Likewise, chapter XVI specifies the causes that could lead to terminating a work contract.

In the case of the CESPM, the *Contrato Colectivo de Trabajo 2012-2013* (2012) does not specify the sanctions and/or possible causes for the termination of a working relationship. However, chapter II of the Civil Service Law of the Workers at the Service of the Powers of the State, Municipalities, and Decentralized Institutions of Baja California (*Ley del Servicio Civil de los Trabajadores al Servicio de los Poderes del Estado, Municipios e Instituciones Descentralizadas de Baja California,* 1989), establishes the causes that could be grounds for termination if it is for a justified reason. Just as the reasons issued within the legal framework of Agua de Hermosillo go from the most logical such as the death of the worker or the termination of the contract, to dishonest and/or immoral acts, abandoning work, unjustified absences, among others.

Differences and Similarities of the Human Resources Management Systems of Agua de Hermosillo and Comisión Estatal de Servicios Públicos de Mexicali

Despite the fact that both organizations show deficiencies in their HRMS, we found differences in two of the four categories outlined in the introduction to be developed in the analysis: 1) Staff hiring policies; 2) Training and development; 3) Salary, benefits, and incentives; 4) System of sanctions. The selection and hiring policies of the CESPM and Agua de Hermosillo are designed to maintain the control of the union on the permanent personnel and of the principal of the executive power on the trusted personnel. This control is reinforced with the policies on both the benefits and aids provided through the unions such as those established in the System of sanctions, given that, to be able to admonish or sanction an employee, the mutual support of the organization-union is necessary.

The differences that explain part of the differentiated performance of the two organizations can be found in sections 2 and 3. Regarding section 2. Training and development of the personnel, in the case of Agua de Hermosillo, there is a lack of elements to make it possible to link knowledge to development, as its training programs are limited and have a short duration. On the other hand, there is no follow-up given to the training program. Agua de Hermosillo does not maintain a record of the personnel that attends external courses, for the course "Training of the customer service personnel" 40 people were programed and not one of them received the training. Formally, Agua de Hermosillo intends to link training with development, but does not program the courses required by the employees, nor does it schedule the workloads so that they can attend.

On the other hand, CESPM, despite having promotions linked to the criterion of seniority, has a better control of its training programs. They are diverse and a greater number of hours are allocated to them than in Agua de Hermosillo. This

has influenced so that the number of complaints received are considerably less than those of Agua de Hermosillo. Regarding section 3. Salary, benefits, and incentives, the employee salaries and benefits for the CESPM are much higher than those of Agua de Hermosillo, which constitutes an incentive for the workers to remain at the state-owned organization, considering that the monthly total current income per capita (TCIPC) of the municipality of Hermosillo in 2010 was of $4 120 pesos, whereas it was of $3 611 pesos for Mexicali (Consejo Nacional de Evaluación de la Política de Desarrollo Social [Coneval], 2010).

Conclusions

The performance of the water utilities is affected by different factors, some of a natural character such as climate, rainfall, watersheds, river influx, etc., and other in which humans interfere, mainly through the management of human, material, financial, and technological resources. The factors linked to management are undoubtedly more relevant, as there is no guarantee that in those places where there is a great abundance of water, the service provided by the water utilities is of quality, continuous, and efficient.[35] It is here that the human resource translates into a fundamental element in order to provide a quality service to the population, despite the sociodemographic conditions of the places they inhabit. Because of this, the HRMS are a subject of interest to understand the management of the organizations.

The HRMS of both Agua de Hermosillo as well as of the CESPM, show patrimonialist characteristics and an excessive intervention by unions (unionized personnel) that hinder the establishment of a career civil service system. Furthermore, these practices are formally institutionalized, given that they are incorporated within the legal framework. As such, the policies that regulate the HRMS of the two organizations are limited by the regulatory framework, and by the interference of actors with interests foreign to those of the organizations. Despite this situation, both Agua de Hermosillo as well as the CESPM, show differentiated performances, and in the studied categories differences are observed that explain in part the observations previously mentioned.

Regarding the first category, Staff hiring policies, both organizations are public and as such the appoint of managerial personnel is the direct or indirect capacity of the principals of the executive power at the corresponding government level, where the selection has not always or has almost never been the best. For example, the Managing Director at Agua de Hermosillo during the period of 2012-2015 did not comply with the profile, whereas more than one functionary of the water utility of Mexicali was excused from giving an interview due to having little time in their job and were unaware of their functions and the problems of the state-owned organization. Regarding the unionized personnel, both organizations are interlaced with unions, which are the ones responsible of negotiating the work benefits and as such many similarities can be observed in their CCT. According to Kneedler et al. (2000) these factors cause an inefficient management system.

[36] For example, Acapulco, Villahermosa, and Tuxtla Gutiérrez have been rated lower by the customers than most of the municipalities evaluated in the encing. An analysis by Salazar and Lutz (2015) note that in Mexico, the Water Utilities located in areas with greater rainfall have lower performance levels.

In the second category, Training and development, it can be observed that CESPM plan and put to a better use their material and human resources, this in spite of having a workforce (on average for every thousand inhabitants) very similar to that of Agua de Hermosillo. The personnel of CESPM manage to cover all the micro-measurement routes, the training courses are apparently designed to strengthen the needs of the personnel and generally, on average, there is a greater number of hours allocated to training than is the case at Agua de Hermosillo, where the training provided to the workers is sparse and does not define a concrete goal. Therefore, it is no coincidence that Agua de Hermosillo does not comply with its training programs, in addition to not having a control of the external training received by its employees. In summary, less training hours are imparted at Agua de Hermosillo, the objective is not met, and important areas such as systems and customer service are neglected, which ought to be priorities in a water utility that seeks to improve its collection, measurement, and water loss indicators.

Regarding Salary, benefits and incentives, in an organization such as CESPM, a salary way above the city TCIPC comprises an incentive for the employees to try their best in order to remain in the organization. And though the water utilities require incentives so that their personnel work for the benefit of improving the potable water service, there is also a need for sanctions to dissuade the personnel from actions that harm the water utility. In this sense, the Systems of sanctions of the organizations show deficiencies, both requiring the support of the union to be able to sanction its workers. Finally, the performance of the water utilities of Hermosillo and Mexicali is the product of their institutional design and the constant interaction of political, administrative, and human factors (Loera, 2015). Because of this, it is difficult to determine the effect that each factor could have on the overall performance. However, the two cases analyzed indicate that the water utility with the best performance had a better training system and incentives. It would be advisable for future investigations on HRMS in the potable water section to include a large sample size that shows a clearer image of the impact that these systems have on their performance. International experience indicates that the development of the human factor is key in generating efficient organizations, therefore it is necessary that a legal framework is designed in the water utilities (and, in general, in the public administration) to limit the discretional nature of the executive power in the appointment of managerial personnel, while strengthening the operational personnel hiring process in accordance with the competence of the candidates, as well as designing development mechanisms based on the aptitudes of the workers.

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