

ADVANCING SEWERAGE SYSTEMS OFFICE PERSONNEL IN THE PUBLIC WORKS DEPARTMENT, TAIPEI CITY

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ABSTRACT. *Advancement is an important talent promotion system that can instill a spirit of hard work and public service among civil servants. The advancement system is closely correlated to employee performance and human resources efficiency. Among the departments in Taipei City Government, the Sewerage Systems Office is the only independent national department responsible for sewer engineering work, and its advancement system differs from that of other departments. This study analyzes data from public documents along with data from a questionnaire survey of 36 senior employees. The analysis focused on the relationship between years of seniority and grade to illustrate the advancement process for respondents that exemplify three different advancement trajectories. The analysis also includes an examination of employees' satisfaction with, or feelings toward, the system of advancement. This study adopts a unique view, as most studies begin investigations of advancement from the perspective of psychological factors.*

Keywords: Advancement system, Engineering personnel, Process of advancement, Questionnaire study

1. Introduction. The present study examined the recruitment system of the Sewerage Systems Office of the Taipei City Government. The “junior engineers” of this agency were formerly categorized as “temporary assigned workers”. To conform to the agency’s wide adoption of an appointment-based recruitment system, starting from March 2004, all new junior engineers were required to pass national qualification exams. This resulted in a mixed staff with two parallel sets of employment criteria, causing numerous unjustifiable promotions. This study focused on the promotion of junior engineers, from whom a total of 36 were picked as participants. These 36 junior engineers were also at an age eligible for retirement. A coordinate plane was plotted on the basis of their advancements in seniority and grades each year and their actual career paths. This innovative diagram enabled the analysis of the time spans required for advancement by one grade, variations in career paths, and categorization of promotion patterns. The results of this study will not only help agency staff understand the factors hindering their promotions, but also provide agency chiefs, who control the promotion of subordinates, with a means of examining the career paths of subordinates and the time they spent in each position. Moreover, an impartial platform can be obtained to promote talented personnel, improve teamwork, and enhance morale. It will also serve as a crucial reference for theoretical and practical studies of engineer promotion.

Civil service departments should emphasize professionalism, fairness, and strategic considerations in designing systems for advancement; however, many uncertainties remain in the process for engineering personnel at the Sewerage Systems Office in the City of Taipei. These include regulations, systemic weaknesses, political and human interventions, which prevent personnel with good performance from receiving reasonably advancing, which ultimately results in skepticism by some related to the system's fairness. This phenomenon not only affects the chief's leadership authority, but also demoralizes the staff, impacts the atmosphere, and destroys the spirit of teamwork, among other effects open for exploration. The research framework of the study is described in Figure 1.

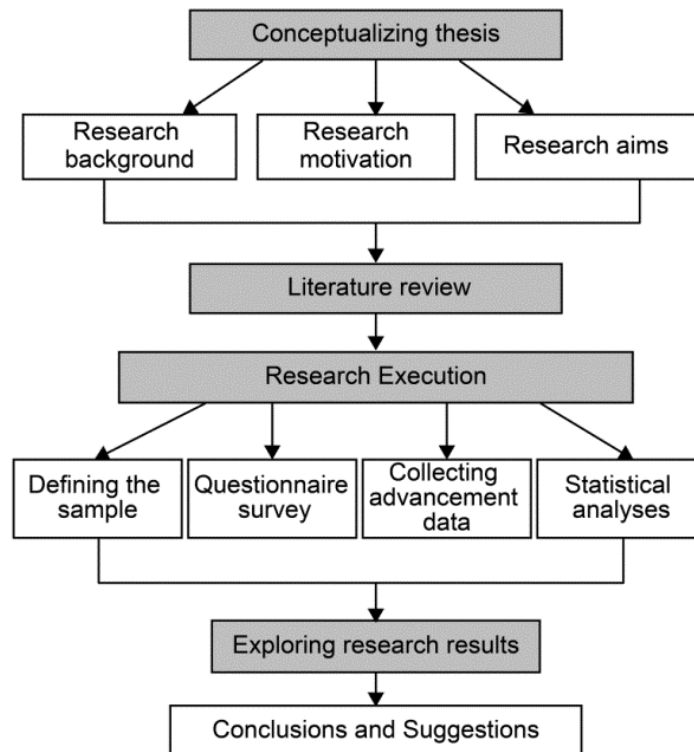


FIGURE 1. Research framework

2. Literature Review.

2.1. Public administration management and the psychology of organizational mobility. Public administration theories related to personnel management can be divided into three periods: (1) old public administration, (2) new public management, and (3) new public service [1-3]. The new public service theory includes seven principles: serve, rather than steer; the public interest is the aim, not the by-product; think strategically, act democratically; serve citizens, not customers; accountability is not simple; value people, not just productivity; value citizenship and public service above entrepreneurship [4,5].

Performance appraisal in civil service is often linked to advancement, which includes changes to civil servants' job duties, grade, responsibilities, salary scale, and others, so it is actually a form of organizational mobility. Work environments with clear goals have scientific and humanistic management, harmonious interpersonal relations, and competitive remuneration. Additionally, the organization will benefit from a strong and mobile centripetal force wherein a positive act yielding positive effects (rewards) has a high probability of repetition, and acts generating negative effects (punishment) are unlikely to be repeated. Arranging appropriate rewards will likely influence employee's behavior, since it is often determined by consequences [6,7].

2.2. International advancement systems. The British government instituted the Fast Stream advancement system in 2012. Under this system, after strict selection and training, excellent administrative trainees quickly advance to first-level supervisory positions within three to four years of employment [8,9].

The US implemented the Civil Service Reform Act in 1978, which stipulates that appraisal is the reference for training, motivation, pay raises, promotion, demotion, assignments, and dismissal, and authorizes each department to establish their own appraisal system. The government established the National Performance Review in 1993, and later renamed the National Partnership for Reinventing Government in 1998. The main objectives included streamlining staff and strengthening workflow reviews and revisions, among others [1].

The French civil servants advancement system includes progressions in pay scale and rank. Pay scales progress gradually each year, while an employee progresses through the ranks based on appraisal (examination and evaluation by the department chief). The human resources mechanisms include human resources management procedures such as part-time work, assignments, promotion, transfer, evaluation, remuneration, and penalty [10].

Germany's civil servant appointment system works according to the Federal Civil Servants Act. Civil servants are promoted according to their grades and pay scales. In principle, a promotion should be based upon qualifications and specific skills, though most promotions in reality are based on seniority, and there is no fast track for promotion [3].

Japan's civil servants advancement regulation stipulates that work and performance should be the main consideration with seniority and career experience as minor factors. The range of advancement options includes appointments, promotion, demotion, or transfer. There is no fast track promotion; however, employees graduating from the University of Tokyo, passing a competitive examination, and possessing significant professional competency and leadership skills will have a better chance of advancement [3].

The appointment system in the Chinese Civil Servants Law refers to examinations, probation, and appointment and the range of assignments among civil servants includes promotion and demotion in job duties, dismissal of job duties, human resources exchanges, and avoiding appointing friends and relatives as a conflict of interest. However, examining the factors in the relevant regulations, apart from the political considerations of being "red and expert", both the human resources background and opportunities encountered affect appointment results [11].

2.3. Taiwan's advancement system. The most common paths for civil servant advancement include competitive examinations, supervisory decisions, evaluations, and so on. However, since examination results sometimes help inexperienced novices obtain a beneficial and superior position, supervisory decisions, defined as when employees are promoted according to supervisors' decisions based on their personal judgment and observations. However, this approach is also problematic; for example, (1) a supervisor might be affected by vested interests, elected representatives, or personal emotions; (2) a supervisor may be influenced by their subjective opinion and judgment; (3) the supervisor may have limited personal knowledge and observations [12].

The public has recently demanded gender equality, and the gap between the two sexes in terms of political, economic, and social status has been narrowed as society becomes more open and pluralistic. Women have taken prominent roles in various fields. However, the glass ceiling phenomenon remains pervasive across public and private organizations as various invisible, attitudinal, or organizational norms create barriers for women. Thus, they rarely have a fair opportunity to compete with their male peers on a level playing

field, leading to the gender inequality phenomenon of men with higher ranks and women with lower ranks [13].

Therefore, it is necessary to explore whether the work and performance system has been implemented in a public department's personnel promotion policies, whether the existing promotion system has achieved equal opportunities, and whether employees feel they have been treated fairly and are satisfied [14].

3. Research Methodology. The research in this study comprises three parts: compiling the survey questionnaire, finding advancement process data, and analyzing the results analysis (Figure 1). The questionnaire survey aimed to collect data related to employees' advancement process and development in order to assess satisfaction and feelings toward the process.

Data related to respondents' advancement process included two items, years of seniority and grade, found and used under the Personal Information Protection Act intended to regulate the collection, handling, and use of personal information in order to prevent the encroachment of publicity rights and to foster the reasonable use of personal information. Yet, according to Article 19 of the Act, when non-public departments collect or handle personal information, there should be specific purposes and everything should proceed according to the regulations. The results from the questionnaire and advancement process were analyzed with an emphasis on respondents' psychological feelings and other metrics, supplemented by the author's experience in human resources management.

4. Advancement Process Analysis.

4.1. Data. All data are related to advancement in terms of seniority and grade number for each respondent. The sample includes 35 males and 1 female, all with at least 24 years of seniority. The maximum was 33 years, and 10 had 30 or more years of seniority. The sample thus includes sufficient years of seniority and a wide distribution, fitting the needs of the present research to observe the advancement process over a long period. However, the female engineering personnel representation is small. For each respondent, Figures 2 to 4 include figures plotting years of seniority against the grade over time.

4.2. Types of advancement. Among the 36 respondents, there are three patterns emerging in terms of the speed of advancement. Each type is summarized and illustrated with a figure that typifies each case.

Slow advancement: Advancement and performances are closely correlated, but apart from unimpressive work performance, there are other factors to consider, such as low levels of education (graduation from college) resulting in rather slow advancement. The total sample contained seven such cases, and Figure 2 shows the typical advancement progression curve.

The respondent illustrated in Figure 2 is a female graduate from a five-year program at the department of chemical engineering at a private nursing college. This is a non-mainstream subject and the qualification was sent for accreditation. The respondent started as a third-grade assistant engineering worker, and reached the fifth grade after 19 years, remaining at this grade into the 31st year of work. In the past 10 annual assessments, the respondent received a grade of B for 4 years and an A grade for other 6 years. However, the scores were only around 81 or 82. She was awarded 14 times after evaluations, with no penalties, and reports indicate that she had a good attitude toward completing the assigned duties, but due to the limitations in the nature of the work and based on what she had learned, she faced great difficulties receiving job rotations. Further, considering the departmental rule that the proportion of A-grade assessment results cannot exceed 75%, in addition to the glass ceiling effect created by the respondents' gender, meant that the respondent could not make further progress and future promotions will be very unlikely.

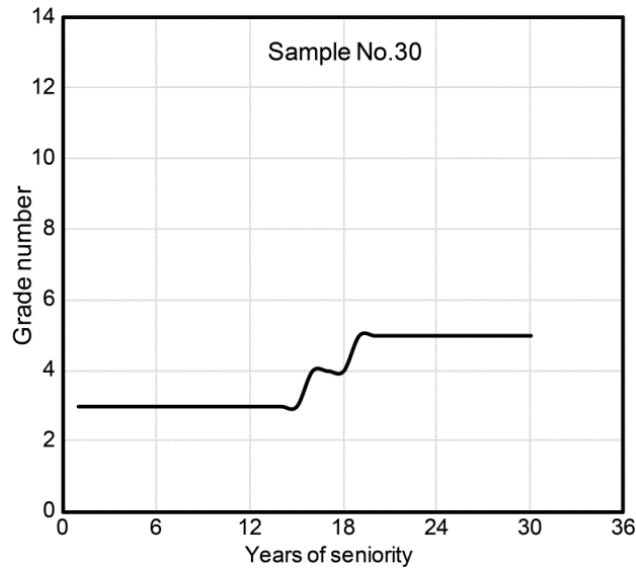


FIGURE 2. Respondent 30 graph

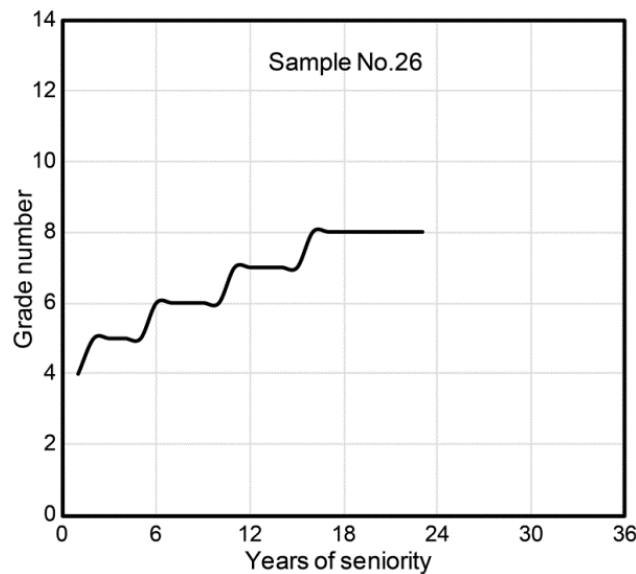


FIGURE 3. Respondent 26

In the survey questionnaire, the respondent expressed the opinion that the department’s supervisor should not be affected by external forces when processing applications for promotion. The most criticized point regarding the promotion mechanism for this type of junior engineer was the supposed impartialness of agency chiefs. The chiefs were expected to be free from external interference and act rationally and level-headedly to choose the most outstanding personnel. The decision must have been arrived at objectively and independently without any political or other external influences.

Stable advancement: This type shows normal advancement according to performance, but with some employee-specific bottleneck factors leading to stagnations in advancement after a certain sequence. Thus, there is no further progress until grade 9 or above. This type includes 24 respondents, and Figure 3 illustrates a typical progression along this trajectory.

The respondent illustrated in Figure 3 graduated from a two-year civil engineering course from a private college, with further part-time studies after work at the department of civil building technology at a national university, and an eventual master’s degree at

the civil engineering research institute at a private university. This is a common subject, and reports indicate that the respondent was very hard working. The respondent's qualification was initially sent for accreditation, and the respondent started as a grade 4 assistant engineering worker, and was recommended and promoted to grade 8 section chief after 16 years. The respondent remained at this level after 24 years. According to assessments, this respondent was responsible and completed any assignments well, possessed critical thinking skills related to public works, and could implement plans smoothly under monitoring. While this respondent had positive work performance and functioned well as a supervisor, there were three missed opportunities to advance to the 9th rank (vice-chief engineer). This is because respondent did not dedicate time to cultivating an interpersonal relationship with the department head, and the work unit's pyramidal structure means that there are fewer vacancies at higher grades. In the questionnaire, the respondent expressed the opinion that age should be included as one of the assessed items, though the respondent had a positive opinion of the advancement process. The most criticized point regarding the promotion mechanism for this type of junior engineer was that agency chiefs considered age when determining promotions. In the opinions of junior engineers, experience should be valued over age when working in a government agency, because only practical experience can enable the prompt and appropriate handling of specific situations. Furthermore, upon being promoted to a new position, experience was key to quick adaptation to different roles and responsibilities.

Fast advancement: Aside from superior academic qualifications and experience, advancement to grade 10 or above requires excellent work records and supervisory appreciation. The sample includes five fast advancement cases typified by the example in Figure 4.

The respondent illustrated in Figure 4 graduated from a five-year course in civil engineering at a public college, and after a few years of work, he further studied at the department of civil engineering at a public university, which the Sewerage Systems Office regards as a common subject. After academic accreditation, the respondent started as a grade 3 assistant engineering worker, and was promoted to a grade 9 chief secretary in the 20th year, advancing 5 years later to a grade 10 vice director-general. Looking at the advancement of engineering personnel overall, this is a fast trajectory. The respondent had good interpersonal relationships, good engineering work management and administrative management skills, and rich experiences, and thus an excellent candidate to nurture as a

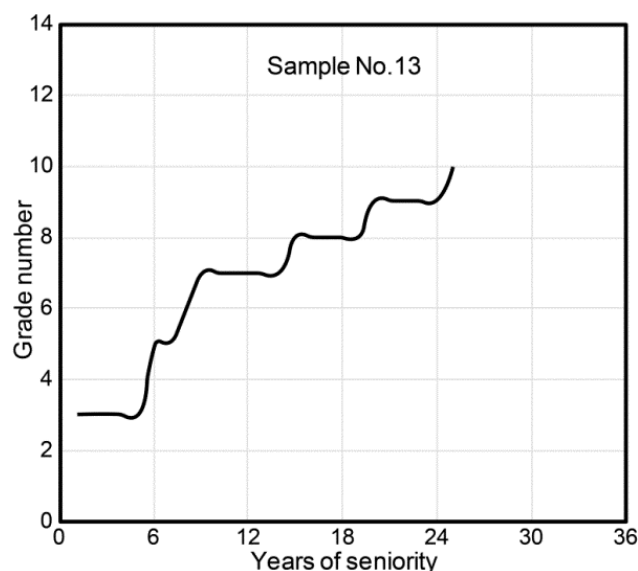


FIGURE 4. Respondent 13

future chief of the Sewerage Systems Office. However, this respondent indicated a lack of interest in promotions and was satisfied to be a deputy director-general. In the survey, the respondent stated, "I am not good at human resources management, so how can I become the director-general?" A chief must have authority to be a suitable candidate, and the respondent's advancement process is very smooth, which is closely related to the master's degree from a public university and the ability to complete tasks. The respondent expressed in the survey that he is still looking forward to and is very confident about future advancement. The most criticized point regarding the promotion mechanism for this type of junior engineer was that they were utterly frustrated and harbored no hope for further advancement. This was because the development of their career paths had progressed at the expected speed, and they had reached relatively high positions. Considering the status of the Sewerage Systems Office as a level-2 agency, and the pyramidal hierarchy of governmental agencies, the likelihood of these junior engineers being promoted any further was low. Therefore, most of them planned to retire at the mandatory age.

5. Conclusion.

A. Actively enhancing staff education levels

In previous discussions, the fast advancement type was revealed to have a higher education level than the steady and slow advancement types. On the internal promotion assessment scale of the Sewerage Systems Office, a doctorate degree was awarded 7 points, a master's degree was awarded 5.5 points, a bachelor's degree was awarded 4 points, and an associate's degree was awarded 3 points. To facilitate an impartial promotion mechanism, promotion should be used as an incentive for the pursuit of a higher academic degree as a part-time student. This system should be designed in a manner that, under the premise of not affecting the job performance of a candidate, it provides incentives in the form of providing funding for credit fees or official leave for classroom hours.

B. Limiting the department head's power in advancement decisions

Managers take different approaches to advancement according to grade. For junior appointments, such as assistant engineering workers and engineering workers, it can either be scoring based on performance submitted to the selection committee, or through appointment via examinations. However, for middle and senior ranking staff, the chief may have different human resources considerations, thus creating abnormal advancement phenomenon such as internally chosen candidates or selection through a black-box process, especially beyond supervisory-level personnel, which relies on recommendations or direct appointment according to the chief's discretion. In this case, it is not necessary to conduct meetings with the selection committee.

C. Significant glass ceiling effect

The documents and questionnaire analysis indicate an obvious glass ceiling effect in the department of public works. Though government departments implemented the Act of Gender Equality at Work Law, it has produced limited results. Nevertheless, with the rise of feminism in recent years, more female students chose to study engineering, rising from one to two students per class to more than one-third at present, and the number of those assigned to public departments after passing the advanced and general examinations is multiplying, making them a new force in engineering units. Moreover, the number of strong female candidates in engineering departments has also grown – a very welcome phenomenon.

D. Advancement combined with training

The main purpose of advancement systems is to match the right talent with the right workplace. However, to develop talent correctly, managers must implement supportive measures and planning. First, there is a need to establish a complete education training system where employees receive opportunities for further study, thus improving the quality of human resources and work capabilities in close connection to the advancement system.

E. Organizational streamlining and strengthening advancement channels

The Sewerage Systems Office grading scheme presents an inverted pyramid shape, with many low-ranking junior positions with a heavy workload, followed by middle positions and relatively few senior positions, resulting in a bottleneck in advancement that encourages staff to move to other departments and speeding up the loss of engineering personnel.

Taipei city's Hydraulic and Engineering Office handles rainwater treatment, while the Sewerage Systems Office is responsible for rainwater and sewerage pre-treatment. This apparent overlap between the two departments easily creates an impression of repetition and redundancy. Thus, the central government has reassigned the Sewerage Engineering Office from the Construction and Planning Agency to the Environmental and Resources Department, streamlining the department and simplifying the staff and work, and reorganizing the Department of Environmental Protection to harmonize the right to manage water resources. Moreover, employees should be encouraged to pick up a second transferable skill to help streamline the human resources channel and increase advancement opportunities as a long-lasting solution.

Because of length limitations, this study focused on only one agency. Future researchers are advised to choose similar agencies to compare their similarities and differences in terms of organizational structure, composition, promotion regulations, and the actual promotion processes of personnel.

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