Digitalizing Water Bill Payments: Introduction of Change Management at Ghana Water Company Limited

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Abstract

(a) **Situation faced**: Ghana Water Company Limited (GWCL) is a public utility company undergoing a digital transformation. The company began transforming its billing processes in 2016. A vital component of the transformation agenda is the digitalization of customer payments, where customers can make water bill payments through mobile money and other digital payment platforms.

Management of the company has realized that some of its commercial department employees (customer-facing staff) are consciously or unconsciously resisting the change. Therefore, to increase adoption, and usage of the payment channels, management has decided to implement a change management program.

(b) **Action taken**: A mixed-method approach was used to obtain staff views on the on-going digital transformation process at GWCL. This was achieved through a survey and focus group discussions. The study targeted to collect data from 200 staff. 160 staff returned completed questionnaires.

The analyzed data from the survey and five focus group discussions were used to develop a digital payment change management framework incorporating implementable action points that will enhance organizational appreciation of digitizing bill collection.

(c) **Results achieved**: The survey and focus group discussions showed that the on-going digitization projects at GWCL have resulted in apprehension, anxiety and fear among many of the staff. Overall, the company staff understanding of change is characterised by operational practices rather than behavioral practices. The research resulted in a digital payment change management framework which has been accepted by the company senior management. The framework establishes how changes will be proposed, analyzed, accepted/rejected, implemented, monitored, controlled, and documented. Currently, the company has successfully implemented a series of pragmatic change initiatives using the framework to facilitate the usage of digital payments for bill collections.

(d) **Lessons learned**: The most important lesson is that it is not possible to manage change in this public sector organization using a checklist of change management steps. The lessons learned are: (i) A transparent and systematic approach to change management enhances digitalization (increases usage and adoption) (ii) An iterative approach allows failure and lessons to be learned (iii) Use a context specific change management framework to establish sustainable change (iv) Use change champions to drive change.

1. Introduction

In August 2016, Ghana Water Company (GWCL) began transforming its billing processes, allowing customers to pay for their water bills through digital platforms. Digitizing post-paid water bill payments is part of GWCL's strategy to reduce consumption of non-revenue water (i.e. difference between the volume of water the company puts into the distribution system and the volume of water billed to the consumer), improve bill collection, and offer customers more convenience when making payments. It is also a response to the Ghanaian Government's call for government agencies to digitize their payments. According to the Economic and Financial Data published by the Bank of Ghana in March 2020, there are 14.7 million active mobile money accounts (Bank of Ghana, 2020).

The utility sector has changed; new companies have entered the market, which has threatened the monopoly GWCL has enjoyed since 1993. GWCL was operating in a secure monopoly market but has gained a considerable amount of competition due to market changes. People are finding ingenious ways to supply water to a few houses and surrounding community areas that are not covered by GWCL physical infrastructure.

To stay competitive, GWCL has embarked on a digital transformation journey; therefore, implementing many changes in just a couple of years. This journey has resulted in a sharp learning curve for employees of the company, who are used to working in a secure environment with little or no change. There is a perceived loss of territory among GWCL employees. Tabrizi et al. (2019) stated that digital trans-

formation is beneficial, but if people lack the right mindset to change, and the current organizational practices are flawed, digital transformation will simply magnify those flaws.

As at June 2020, GWCL has close to 770,000 customers, all in urban areas across Ghana and this number is growing. A variety of payment options are available for customers to pay for their water bills, viz: mobile money USSD menu on their phone; GWCL app, which is free to download and available on both iOS and Android platforms; electronic funds transfer (EFT) between bank accounts; cash over the counter at the GWCL offices, (or to GWCL field staff who visit properties during revenue mobilization efforts); and cash over the counter at bank branches. However, GWCL has not seen widespread adoption and usage of the digital bill payments platforms (i.e. mobile money, bank transfers, mobile app). As of March 2020, only 6.1 per cent of the total customer base paid their water bill through digital payment platforms out of a total of 764,463 customers.

Between May 2018 to April 2019, GWCL in partnership with the United Nations "Better Than Cash Alliance" (BTCA), conducted a consumer insights study of water customers in Ghana's two major cities, Accra and Kumasi. The main objective of the insights study was to understand customer preferences and bill payments usability problems. One of the major lessons from the consumer insights report was that the staff of GWCL poorly understood change management. GWCL does not have internal operational processes to support change management. This could be remedied if the company set a well-defined change management framework in order to increase customer adoption and usage of the digital bill payments platforms.

This case study explores how GWCL implemented an extensive change management program to increase adoption of e-billing / digital payments among staff, hence improving overall customer perception of the alternative payment platforms. The first author of this chapter was a consultant for GWCL as the Change Management Expert through the United Nations "Better Than Cash Alliance" (BTCA).

After this introductory section, section 2 outlines the situation faced by GWCL (a public sector company) and details specific challenges. Section 3 covers actions taken by GWCL's senior management to overcome the challenges. Section 4 presents preliminary results of the transformation process, and Section 5 summarizes the lessons learned.

2. Situation faced

Since 2016, the Ghanaian Government has embarked on numerous digitizing projects to grow the economy and enhance digital financial inclusion. Until recently, the private sector has been at the forefront of using digital technology to deliver services to customers, thereby becoming more efficient and ultimately increasing profit.

The public sector is approaching the standard set by the private sector when it comes to digitalization of services. The government has made digitalization a top priority, crucial to their Ghana Beyond Aid Agenda.

In 2017, the UN-based "Better Than Cash Alliance" released a report on Ghana's progress in creating a digital economy. The report is titled Building an Inclusive Digital Payments Ecosystem: The Way Forward. One key recommendation made by the UN was that the government should invest in infrastructure for digital public utility payments. The report stated that 80 per cent of the population uses essential public services such as water and electricity, but only 20 per cent of the population has access to digital technology such as smart meters. By investing in smart distribution infrastructure that digitizes end-to-end delivery and payment, it can increase efficiencies and ease of use for citizens – ultimately increasing adoption.

GWCL in June 2016 started transitioning from paper to electronic billing. The company in 2017 launched its electronic billing and payment system to boost its operations. The new system allows customers worldwide to pay their bills electronically in the comfort of their homes and from any location worldwide. The platforms facilitating the GWCL's e-payment system include mobile money platforms, several banks and e-payment services (shown in Fig. 1).

Fig. 1 Consumer guide to bill payments

Previously, water meter readings were manually recorded by the company's meter readers. GWCL prepared its customers' bills by manually keying into its billing system, and printing bills to distribute to customers. Bill payments could take at least 28 days to reflect on subsequent bills of customers.

The GWCL digitalization project is driven by senior management which had delegated responsibility to a group of employees of the company to realize better ways to adapt to these new changes.

To ensure a smooth transition to the new digital environment and improve service delivery to its customers, it was crucial to introduce a realistic change management program to manage the people side of the project. This may enable staff to

thrive in the transformed organization. Research by Kostenbaum and Dener (2015) stated that there is no widely accepted framework on the development of change management programs and action plans in the public sector. In fact, in most cases, project-specific solutions are being developed.

Currently, GWCL has been confronted with "wicked problems" as a result of their digitization project, that is problems with many interdependent factors making them seem impossible to solve. To navigate wicked problems, the introduction of change initiatives is necessary to succeed with digital transformation. Fig. 2 shows that there are unseen barriers to digital transformation in GWCL. The basis of change management theory lies in the fact that most managers tend to only focus on the apparent barriers such as cost, quality and time instead of giving attention to more important issues such as perception, beliefs, power and politics (Krüger et al. 2010; Stouten et al. 2018).
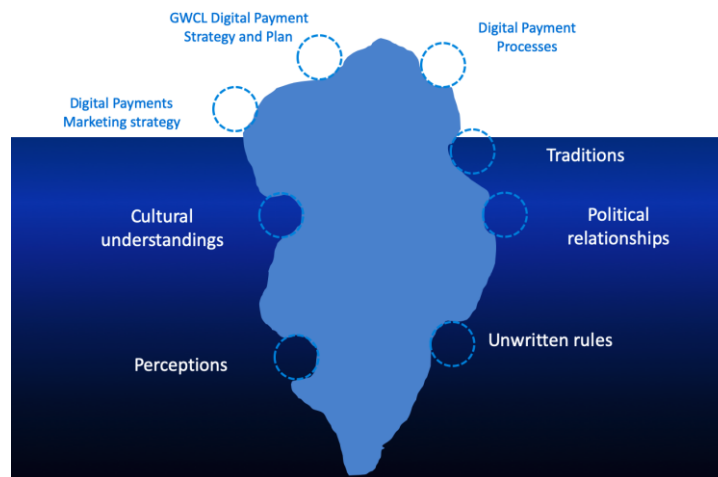

Fig. 2 Change Management Iceberg Metaphor (Developed for this study)

The absence of a clearly defined change management approach in GWCL has resulted in several challenges which affect the whole digitalization program. The focus of this case study is to develop a bespoke digital payment change management framework for GWCL to increase adoption of e-billing platforms in the company. This will be achieved by (i) assessing the current organizational change level, given the progress made so far in the transformation process; (ii) based on the findings, developing a digital payment change management framework incorporating implementable action points that will enhance organizational appreciation of digitizing bill collection, as well as agree with senior management on key change management performance indicators; and (iii) conducting a final assessment to establish the effectiveness of change management tools to the transformation process.

3. Action taken

In the previous section, we described the situation faced by GWCL. To increase the usage and adoption of e-billing platforms in GWCL, the Commercial, Technology and Innovation departments of GWCL, guided by the Change Management consultant from the UN BTCA, developed quantitative and qualitative approaches to collect information from employees of the company. The data was collected through a survey, focus group discussions and semi-structured interviews. The data collection tool was built on the Awareness, Desire, Knowledge, Ability, Reinforcement (ADKAR) model which can identify why changes are not working.

In the ADKAR model, Prosci (2004) proposes that for successful change to occur at the individual level, people need to move through each of these stages:
1. Awareness of the need for change;
2. Desire to make the change happen;
3. Knowledge about how to change;
4. Ability to implement new skills and behaviours; and
5. Reinforcement to retain the change once it has been made.

The study targeted to collect data from a sample of 200 GWCL staff out of 5020, with 160 responses received representing a response rate of 80 per cent. A total of 75 GWCL staff participated in the focus group discussions and five Managers in the semi-structured interviews. Five (5) Focus Group Discussions were held in two regions in Ghana, namely Greater Accra and Ashanti Region. The GWCL staff surveyed and interviewed are district commercial officers, meter readers and client relations officers.

The study was interested in the length of time that the respondents have worked in GWCL. The findings showed that 44% of the respondents had worked in GWCL for over 7 years, 30% for 2-7 years, and 26% for less than 2 years. This indicates that most of the respondents have been with GWCL for enough time to have gained a full understanding of the GWCL environment, how it works and its operations.

Although two-thirds of the staff were satisfied with the effectiveness of senior management, the consultant was able to identify the challenges regarding the e-billing system implementation. The challenges identified were:
- limited GWCL staff understanding of change and change management processes and practices;
- employees' negative experiences of change and change management;
- resistance to change;
- inconsistent quality of communication; and
- the need for change and change management: A top-down driven policy.

Findings

Finding 1: GWCL staff have limited understanding of change and change management processes and practices

Two-thirds of the employees interviewed had limited knowledge and understanding of change and change management processes and practices. Staff were unclear on the definition of "change". Responses varied from complex explanations to simplistic understandings of the terms "change" and "change management". For example, a third of the employees stated that "change is a different way of doing your work"; "change could simply be posted to a new district or region"; and "changing your role in GWCL". Overall, GWCL staff understanding of change is characterised by operational practices rather than behavioural practices. The employees lack knowledge of what to do and what is expected of them in this new "digitization era".

Finding 2: Employee's report negative experiences of change and change management

Some employees mentioned that the digitization drive-by GWCL senior management had a negative effect on them. According to these employees, this change has resulted in apprehension, anxiety, fear, disillusionment and shock. These emotions were evident in all five Focus Group Discussions. Some employees stated they received instructions from the head office about requirements. They were not involved in creating "a change process". However, other employees felt challenged, excited and motivated by the impact of e-billing and overall digitization drive of GWCL. The lack of participation by some employees is attributed to a lack of understanding of the actions and decisions taken by management.

Finding 3: Resistance to change is not widespread

The data analysis from the survey and Focus Group Discussions showed that GWCL staff are not against change. Rather it may be the lack of information on the objective and purpose of a change initiative that causes the resistance to change. Employees believe that "change" is an occupational necessity for GWCL to be profitable, especially now that its market monopoly is reducing.

Finding 4: Quality of communication is inconsistent

With regard to the issue of communication effectiveness within GWCL, employees echoed the following views:

• Management is always available to engage with staff whenever required;
• e-billing objectives were clearly communicated in an open and candid way;
• general communication within GWCL is effective in that employees are satisfied with the discussions on most occasions and
• some employees felt less positive about how well their district / regional managers were keeping them informed about GWCL matters.

Employees were of the view that communication in the organization has changed due to the advent of new technology. They concurred that they had multiple tools for communication at their disposal. Employees cited the following modes of communication that were available to them: Email, WhatsApp, SMS and Intranet.

However, while acknowledging these new modes of communication, employees stated that these could only be used effectively within the organization if all employees received proper training on the use of these modes of communication.

Another view was the need for the IT unit / MIS to conduct periodic training and development workshops across the regions and districts on how to use these technologies to enhance work productivity. For example, the use of email within GWCL was deemed to be a popular means of communication, but some staff are still not comfortable using email. Other responses from the Focus Group Discussions indicated that communication within GWCL was appropriate but could be improved upon.

<u>Finding 5: Managerial Effectiveness is satisfactory</u>

Most of GWCL staff interviewed stated that they were satisfied with the level of managerial effectiveness as most managers portrayed good managerial skills. They expressed the view that management has set clear and measurable objectives for e-billing. Senior Management must ensure there is effective communication between all employees at the various regional and district offices.

<u>Finding 6: Change and change management driven top-down</u>

Change is perceived as a top-down approach. Some interviewees stated that they had little opportunity to contribute their professional expertise to change processes and practices. They see change as driven, dictated top-down by senior management, to be implemented unequivocally within the GWCL, thereby making change a "mandatory" top-down model.

Employees also raised the concern that on some occasions, they were asked to contribute ideas on a particular issue, but the GWCL management always made the final decision. This makes them doubt the authenticity of the exercise. Employees are recipients of policy directives.

4. Results achieved

GWCL has successfully formed a Change Management Team (CMT) to manage change steps. The CMT is governed by a Change Advisory Council (CAC). Members have positions such as heads of departments/units and senior management with authority to make decisions.

A Change Advisory Council (CAC) ensures GWCL ownership and sustainability of change activities. The Committee consists of GWCL senior managers. It is responsible for providing guidance, advice and authorization to the Change Management Team on change initiatives.

A Change Management Team (CMT) was established to deliver approved changes. Members include representatives from GWCL regional and district officers referred to as "change champions". The CMT manages activities of training and communications coordinator.

The change initiatives are implemented through a change authorization structure which provides governance around the changes. Fig. 3 below presents the change authorization structure.
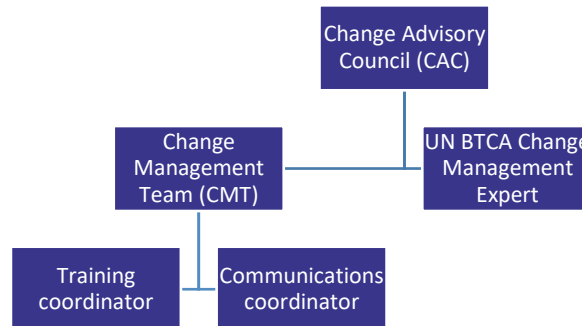

Fig. 3 Change Authorization Structure

The UN BTCA Change Management Expert works with GWCL CMT to develop proposals for change, implement and assess impact. The GWCL change management framework (shown in Fig.4) aims to accomplish the following actions:

- guide GWCL how to effect sustainable change;
- facilitate discussions by GWCL management on problem identification and possible scenarios for a solution;
- introduce innovative concepts and ways in which effective change works;
- help develop and highlight steps GWCL needs to take to make change happen;
- assist GWCL to analyze and break down complex problems into manageable components that can be solved more effectively;
- support GWCL in recognizing and understanding the "people" element of managing change; and
- set up the Change Advisory Council and Change Management team.

In managing the change process, the following areas are the focus of the framework throughout the process (adapted from PDIA (Andrews et al. 2013)). The PDIA steps provide a pragmatic approach to solve complex problems. The steps are:

1. Is the right problem being solved? / Identifying the right problem;
2. Identify the benefits of the change;
3. Document the requirements for change (personnel/financial/political resources);
4. Solutions (the right solutions to these problems are being developed – based on requirements);
5. Impact/changes to policies/processes;
6. Alignment with GWCL digitization agenda; and
7. Ensure that the change/transition process is undertaken in an effective, efficient, and inclusive manner.

The underlying basis for the GWCL digital payment change management framework is Kurt Lewin's Three-Step Model which involves three-stage processes, that is: unfreezing, changing and re-freezing. The framework also draws on elements of three models: Prosci's ADKAR (Prosci 2004), Kotters eight-step strategy model (Kotter 2012) and Problem Driven Iterative Adaptation (PDIA) (Andrews et al. 2013).

The GWCL digital payment change management framework enables the GWCL change management team to iterate various change initiatives around their priority problems by repeating the process of identifying problems, identifying resources, creating solutions, implementing the solutions, and then learning and adapting. The steps in the framework can be repeated until the broad objective of digital payments is achieved.

The GWCL change management framework involves iterative steps until the change is successfully implemented and yielding results. The steps in the framework are shown in Fig. 4.
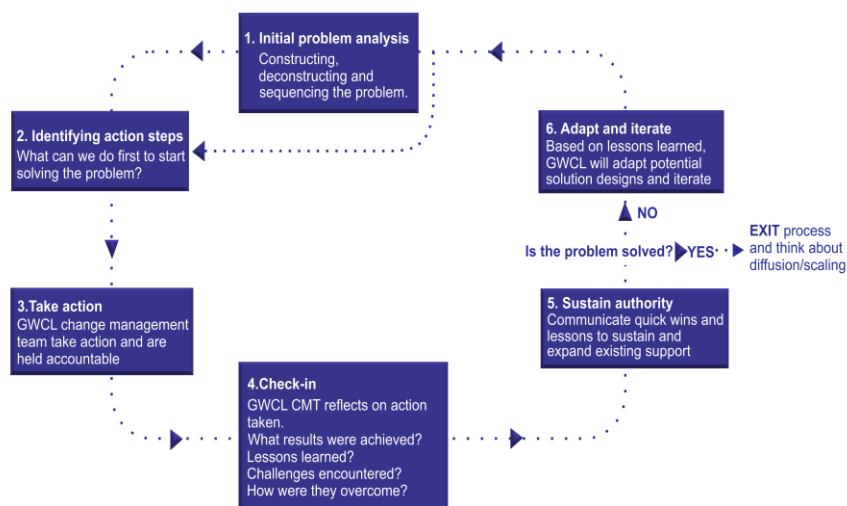

Fig. 4 Change Management Process framework adapted from Problem Driven Iterative Adaptation (PDIA) (Andrews et al. 2013)

Four months after the change initiatives were implemented GWCL began seeing results. In April 2020, four (4) change concept notes were developed by the CMT and subsequently presented to the CAC for approval, thereby building the necessary legitimacy to mobilize support.

The first result is that in June 2020 the CMT developed a communication strategy that includes timelines to communicate change, the key messages and communica-

tion channels. Previously GWCL employees in the districts and regions were dependent on the regional and district managers for information about change. This led to poor communication resulting in rumours, thereby creating resistance to change. After the strategy was implemented all messages are centrally coordinated through various channels such as SMS, WhatsApp, Newsletters and Intranet.

Secondly, the CMT has built on the GWCL staff entrepreneurial orientation through training, guidance and coaching. During the focus group discussion, it was clear that some GWCL staff think of the company as theirs. At one of the meetings, an employee said: "*they are not a typical government agency, they generate their revenue, so it is in my interest to ensure customers are paying their bills*". There are signs of proactiveness among staff. This is in line with the transformational leadership style which is a key element of change management.

Thirdly, the CMT has been able to identify some GWCL staff members in the districts and regional offices who do not hold managerial positions but are highly regarded as leaders by their colleagues. These staff members have been made champions and went through formal change management training. They understand the operational details of GWCL processes. They can advise on potential problems and likely customer reactions with the on-going digitization initiatives.

The fourth result is that the CMT developed a detailed training plan addressing the capacity gaps identified. With the change message out in the open, there was a feeling among some employees that they would be left behind due to lack of IT skills. Therefore, a digital literacy program was developed to teach the skills and knowledge required to operate efficiently and effectively as the change is rolled out. The training style is a blended learning approach incorporating face-to-face training sessions or on-the-job coaching and mentoring.

The communication committee in the CMT actively developed success stories to communicate the current achievements of the digitalization project, converting early wins, no matter how small, into success stories people can understand.

These stories reinforce that small contributions really do matter and create momentum for change.

Future Work

In November 2020, the framework is showing good results and has helped GWCL to own and implement their change initiatives. However GWCL will require more time to institutionalize it as part of their operations more broadly. The initial the focus was on guiding and coaching GWCL's CMT to fully utilize the framework and approach. In the next stage of the project, the authors will conduct a final assessment to establish the effectiveness of the change management tools to the transformation process. The change management approach will be deemed to be a success if GWCL can achieve the following:

- the CAC and stakeholders remain committed to the change management cause;
- the CMT is active and GWCL staff are attending trainings and workshops; and

- finally, and most importantly there is an increase in the usage of digital payments for bill collections.

5. Lessons learned

GWCL succeeded in setting up a Change Management Team to lead the implementation of change initiatives. Change in a public organization is complex. It should be implemented following a plan and must be introduced iteratively; a single jump to change is a recipe for failure. The GWCL approach to public sector change management provides a practitioner approach to solve a complex problem. **Table 1** outlines the key lessons. Below we further discuss the lessons.

Table 1: GWCL Change Management: key lessons

	Key Lessons
Lesson 1	A transparent and systematic approach to change management enhances digitalization (increases usage and adoption).
Lesson 2	An iterative approach allows failure and lessons to be learned
Lesson 3	Use a context specific change management framework based on good practice to establish sustainable change.
Lesson 4	Use change champions to drive change.

Lesson 1: A transparent and systematic approach to change management enhances digitalization (increases usage and adoption).

This case study confirms the view that managing a successful change in the public sector can be challenging and difficult. It also supports the finding of Labianca et al. (2009) that discrepancies between an organization's ambitions and the received performances can motivate change.

Change management efforts must be built on problems people care about. In addition, while planning for change, follow a change management framework. In this case, the framework uses principles from PDIA which refers to the identification of point of engagement, also referred to as "space for change." GWCL's Change Management Team has successfully established a system for the implementation of change initiatives. Proposals, in the form of Concept Notes, are solicited from various departments of the company for submission to the Change Management Team (CMT) for approval and support. The CMT uses the criteria provided in the change management framework to establish the proposals criticality and feasibility, which then inform the discussion to proceed.

The proposal is then submitted to the Change Advisory Council (CAC) for consideration. If the CAC agrees, then the CMT adds the change initiative to their portfolio. Changes which do not go through this process are not supported by GWCL

senior management. GWCL change activities are now intentional and well managed. The CMT has invested time and energy into the process making sure it becomes part of the culture of the company.

Lesson 2: An iterative approach allows failure and lessons to be learned

GWCL's CMT approach to supporting change initiatives is a step-by-step discovery of what is possible in the near-term to progress towards aspirational goals, and then working to achieve these possibilities. The process of digitizing GWCL is iterative involving experimentation, failure and setbacks, as well as shifts in direction. The digital payment change management framework supports learning-while-doing that builds confidence and encourages new behaviours. GWCL understands that to build an e-company, it needs to experiment and learn from its mistakes.

The experimental approach to change management has positioned GWCL as an organization that is open to various solutions. The new norm in GWCL is that it is "ok" to fail since that is the only way to learn.

Lesson 3: Use a context specific change management framework based on good practice to establish sustainable change

The implementation of GWCL digital payment change management framework is time-consuming, initially may be seen as not really having any end point, and takes time getting used to, but it is a worthwhile exercise in achieving sustainable change. Additionally, it helps to ensure that interventions are developed within the local context, and with support from stakeholders, and owned long after consultants have left. It requires all involved to move away from developing pre-conceived assumptions and move towards the goal of finding solutions that actually work for our specific problem. In a public sector organization, it requires political will, a commitment of time and personnel who are dedicated to engaging with the problem and resource commitment.

Lesson 4: Use change champions to drive change

GWCL has some staff members in the districts and regional offices who may not necessarily hold a management position or are even known to senior management but are highly regarded by their colleagues as a leader. These staff have personality, competency, information, politically astute and are trusted by their colleagues. It is crucial to identify these people and make them the change champions. Since they understand the operational details of GWCL processes and highly regarded by their colleagues, they can advise on potential problems and likely customer reactions with the on-going digitization initiatives.

The intent of the transition to e-billing is borne out of the desire to improve the entire billing system of GWCL. All aspects of the company's operations that deal with billed consumption and its resultant revenue generation are being enhanced under the e-billing project.

As shown in this case study, employing an iterative change management system is a difficult approach to master. As going digital becomes the norm in GWCL, change management should lead the way. Because change management is very much based on the context and culture of the organization, every organization seeking to implement changes could tweak this framework to their specific needs.

The framework provides a disciplined approach to practicing change management in the context of GWCL. It is thus our hope that the lessons learned from GWCL experience can assist other public sector companies with their digital transformation.

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