Staff Perceptions on Paperless Management – A Qualitative Study of RPS Engineering Services Ghana Limited

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ABSTRACT: Renaissance Personnel Services (RPS) Engineering Limited, a telecommunication infrastructure services provider is noted for excessive use of paper by employees for daily operations despite the availability of some Information and Communication Technology (ICT) tools. This study explores staff perceptions on the use of paperless management systems and makes use of a qualitative research strategy through a case study design. The study exposed that RPS is faced with some challenges like delays in project completion, high transportation and overhead expenses which can be solved by implementing paperless management systems. The study also exposed that to be efficient with the paperless system; employees require basic training on the effective use of ICT – hardware and software as well as other technological upgrades in the various fields of operations. It is recommended that RPS obtains some more infrastructures in addition to the ones available in order to successfully implement a paperless system. There is also the need to educate employees on the effects of paper use on the environment.

KEYWORDS: Paperless, Management System, Staff, ICT

I. INTRODUCTION

ICT is the most powerful new tool we have for solving the world's major challenges—ending poverty and hunger, ensuring universal access to basic services, and making the transition to a low-carbon economy [1]. Some employees however prefer the use of paper to paperless systems despite this essential role ICT plays in development. It is known that implementing ICT in organisations often results in significant situations of resistance to change. This resistance is what accounts for the use of paper in managing operations in an office rather than imploring the use of ICT [2]. Most organisations however perpetually stick to the traditional system of paper use since they genuinely lack the infrastructure that facilitates the use of paperless management systems. However, this same reasoning cannot be made for organisations that build and maintain the infrastructure for ICT. These organisations are already equipped with the basic infrastructure required to facilitate paperless offices.

Telecommunication Infrastructure companies are specialized in building, maintaining and operating cell sites [3]. In other words, all the hardware telecom operators require to function efficiently are installed and maintained by telecom infrastructure companies. A telecom infrastructure company will therefore be in a better position to apply a paperless management system since it already provides services in that area. RPS Engineering Services is a telecom infrastructure company which implies that such an organisation will be in a better position to efficiently use the paperless system.

Sustainable Development Goal 7, which aims at ensuring access to affordable, reliable, sustainable and modern energy for all, recognises the crucial essence of universal access to sustainable energy and the de-carbonization of energy consumption [1]. Paper production contributes significantly to deforestation and man-made climate change, and produces greenhouse gases [4]. The production of paper results in air pollution by releasing nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and carbon dioxide (CO_2) into the atmosphere with Carbon Dioxide being the major cause of climate change [5]. An increase in the use of paper products in offices automatically results in increased paper production which is detrimental to the environment hence the need for individuals and industries

to go green, with ICT offering the means. In recent years, organisations have come under increasing pressure to address the long term consequences of environmental degradation and pollution and to improve their responsiveness and stewardship [5]

In recent times when most companies require high productivity levels and precision from employees, it is much better for telecom infrastructure companies to make use of the facilities available to them.[6] The question that lingers on one's mind is why RPS Engineering, a telecom infrastructure company, with all its facilities will be dependent on the use of excessive paper in carrying out its operations. Why will routine traditional paper-centric management not give way to modern paperless systems? Could it be that the use of paper cannot be done away with completely? In a case where paper cannot be completely eliminated, it is worth knowing which aspects of operations will not function well with paperless implementation. This study therefore seeks to explore the various staff perceptions of paperless management systems in an organisation's operations.

A report from a survey of African Education and ICT professionals indicated that despite the importance of ICT and several advantages, most managers, trainers and teachers are reluctant to deploy it in their daily operations [7]. Reluctance was a major theme that emerged from the study and was attributed largely to lack of awareness about how best to use ICT, among other reasons. At RPS however, almost all employees are aware of the importance of ICT, hence providing services in the area of telecommunication infrastructure. There was therefore the need to explore what the employees actually think about a paperless system functioning effectively in all departments at the various levels. This was achieved by finding answers to these questions:

- What are the current challenges at RPS Engineering Services as a result of paper-centric management system?

- How can a complete paperless management system offset current challenges at RPS Engineering Services?

- What are the training needs of employees of various departments at all levels in order to equip them for a paperless management system at RPS Engineering Services?

- What other challenges may arise as a result of a paperless management system at RPS Engineering Services?

II.   Methods

This study made use of a qualitative research strategy. A qualitative research provides information about the ―human side of an issue – that is, the often contradictory behaviors, beliefs, opinions, emotions, and relationships of individuals [8]. Words were used in both data collection and analysis with textual descriptions used in the entire study to paint a vivid picture of findings.

A case study design limited to RPS Engineering was chosen to explore depth and give exposure to perceptions of employees that attribute to excessive paper use at RPS Engineering Services. Population of the study was primarily staff and management of RPS. Despite the fact that this is a case study, with all findings limited to RPS Engineering Services, management of Africa ICT Right (AIR) and Imani Center for Policy and Education were also included to share knowledge on the subject. Africa ICT Right is an NGO that is committed to making six out of the seventeen sustainable development goals a reality. They empower underserved communities by providing technological resources, training people and providing support to address developmental needs. Imani Center for Policy and Education is a top ranking influential policy think tank in Ghana and Sub-Saharan Africa [6].

Purposive sampling was used to determine participants for this study. Staff of RPS was categorised in two – site engineers and office staff. Participants for each category were selected strategically to involve a section of management, mid-level and junior level staff, hence the use of purposive sampling. For field staff that were on projects outside Accra, phone interviews were arranged with a major precaution not to speak via phone with any staff working on site or driving to and from site so as to prevent any form of accident. For employees mostly

available in the office, which happen to be mainly top management, other senior level staff and mid-level management, arrangements were made such that interviews did not interfere with official assignments. Purposive sampling best served the purpose due to its cost and time effectiveness.

The main methods for data collection were Participant Observation and Unstructured Interviews. As a staff of RPS Engineering Services myself at the time of the study, I was in a very good position to see as the other staff perceived the use of ICT in managing daily tasks hence the use of participant observation as a data collection tool. Again, work processes, staff and management styles are already familiar with my role as an internal staff and therefore some attitudes were not strange or alien to this research and me as the researcher. This familiarity however, was not abused so as to achieve reliably valid outcomes. A non-judgmental attitude, an open mind as well as careful observation, good listening and expecting the unexpected, were the main focus points throughout the study. Interviewing staff of RPS Engineering Services as well as management of Africa ICT Right (AIR) and Imani Center for Policy and Education was another major avenue for data collection. Unstructured interview was preferred to in-depth interview due to its conversational nature even with the interview guide. This allowed staff to feel free to express themselves without a sense of feeling pressured to provide any information. Interviews were audio recorded in order not to interrupt the conversations with note taking. Another reason for unstructured interviews was the setting. In settings like that at RPS Engineering, there is a very thin line between confidential information and that which is open to the public. There was the need for participants to feel safe, hence unstructured interviews.

Data was analysed thematically. Thematic analysis is a method for identifying and analyzing data in qualitative analysis [9]. Thematic Analysis was the most preferred for this study because it works well with a wide range of research questions, from those about people's experiences, perceptions and understandings to those about the representation and construction of particular phenomena in particular contexts. This was achieved by getting familiar with the data, coding, searching for emerging themes, reviewing themes, defining and naming themes and then writing a report on findings.

Ethical Considerations are considered as one of the most important parts of a research [10]. In carrying out this research, participants' consents were sought for ahead of all interviews. Employees' dignity was highly upheld as well as confidentiality of all data collected. Respondents were duly informed about recordings while avoiding all forms of offensive, unacceptable and discriminatory language.

III.   Research Findings

RPS Engineering provides turnkey solutions for telecom infrastructure project rollouts to a suit its clients' specific requirements. Its main objective is to become a key player in both the telecommunication industry and standby or backup power provision in Africa with emphasis on site building, infrastructure and power maintenance, in ancillary product sales and aftersales service by incorporating international best practice in all endeavors and delivering service of the highest quality. However, in recent times it is very difficult if not impossible to aim for international standards and high quality without the mention of ICT. RPS is very much aware of this; hence the investments made in acquiring some ICT tools to facilitate realizing its objective. Some ICT components like computers (desktops and laptops), printers, scanners, photocopiers, smartphones, servers, software, internet connectivity, telephones, etc. are readily available in the various offices.

A. Challenges at RPS Engineering as a Result of Paper-Centric Management Systems

Work Delays as a Result of Excessive Use of Paper

Observation exposed that the effective work hours for most site engineers is after midday. A few reasons were observed to account for this. First of all, it is very rare to have management give an oral approval or send an email authorizing that cash is given out for an activity in their absence. The mostly used alternative is to have another manager sign hardcopies of the request on their behalf. There have been several instances where activities were delayed for up to a week because senior management was not available to approve a cheque or other official document. In instances when management is physically present in the office but attending to some other activity, employees are forced to be moving to and fro checking up

to see if management is free to endorse documents. However, if there was an internal software that could have the document pending on management system, it will be approved as soon as (s)he can make sometime without team members having to waste productive hours by following up on documents.

Sometimes, requests pending approval get misplaced, misfiled or mixed up with other files. People tend to blame each other for losing the document, which further delays work to be done. This normally happens to teams outside Accra whose requests need approval from management. During such situations, a new request is made and the process starts all over again at the expense of the pending activity. It is interesting to note that some documents like invoices and receipts are mostly scanned and forwarded via mail to management. However, original copies or photocopies are still presented to validate scanned copies sent earlier. Management however insists on these hardcopies because as they put it "some employees cannot be trusted, especially when there are sizeable amounts of money involved, receipts need to be presented". Managers feel employees are likely to take advantage of the system if keeping and accepting softcopies of documents are the only avenues for tracking. According to them, "it is better to delay the work and get documentation right than be in a hurry to get work done at the expense of bloating cost centres for the various projects and exceeding budgets for carrying out some tasks." With the hard copies, management is able to probe further than just soft [6].

High Overhead Costs as a Result of Excessive Printing of Documents

Every document that exists at RPS Engineering happens to have been printed, is being printed or will be printed. Long lists of e-mails, reports, excel workbooks, word documents, pictures, etc.; are printed on a daily basis [6]. This is mainly due to document sharing, storage and sometimes referencing. Aside printing, photocopy is also very common. Documents are photocopied in bulk. The economic impact extends beyond the use of excessive paper to the cost of cartridges – both black and coloured. This becomes severe when teams are compiling reports but happen to make a mistake. The whole printing is redone. Though the other side of paper is reused for other casual needs, the ink used in the earlier situation, get

wasted. Despite the economic impact of excessive use of paper, employees still prefer the use of paper since it is much easier to read from paper than from a computer screen. Some employees actually believe that producing a printed and signed document as evidence, better addresses trust related issues than retrieving a scanned copy as evidence.

Difficulty in Retrieving Filed Documents

Employees have a strong belief that there is coming a day of reckoning where documents will be recalled for verification or confirmation of some sort. There is also the fear that if they are not able to sufficiently defend themselves with filed documents, they will be held accountable for and be punished severely if they fall short of requirements. This belief is so strong that consciously every employee tries to file backups of all documents regardless if its relevance. This is done religiously and sometimes results in a number document duplicates. As a result, a document may be scanned for storage at a point in time. However, another file lying in a cabinet somewhere in the office will contain either a photocopy or printout of the document. Almost all corners in the building have cabinets occupying space.

There is also the aspect of third parties who require signed documents annually for their reports. Some of these third parties are auditors, lawyers and tax enforcement agencies. Some clients also require in addition to softcopies of documents, signed file copies as evidence that a particular work has been completed. These external requirements leave staff with no option than to make documents, no matter the form in which they are stored, also available on paper. With this adherence to requirements and document duplication, it is mostly a very difficult task when documents have to be retrieved.

Employees Underdeveloped in the Area of some ICT Applications

The study exposed that due to the sole dependence on the use of paper for operations, some employees were not under any obligation to obtain training in the area of some ICT applications. Such employees are unable to use the basic Microsoft office applications. Indeed some attested to the fact that they have never scanned a document.

Owing to the fact that there has not been the need to make use of scanning, they have also not seen the need to acquire that skill and if they are faced with a scanning situation, they would seek help from colleagues.

B. How ICT Based System can offset Current Challenges at RPS Engineering Services Ghana Ltd.

Employees attested to the fact that a paperless system will ensure flexibility in accomplishing various tasks owing to the fact that management does not have to be physically present in order to give approval. Though management shared in this view, the flexibility however, is likely to yield both positive and negative results. Some managers felt the flexibility is likely to cause field engineers to be less productive in the case of virtual teams, with some field engineers likely to ride on the productivity of other hardworking employees. Female employees felt the flexibility will enhance work from home and will favor to a high extent those who double up as wives and mothers.

How ICT Can Solve the Problem of Excessive Work Delays

Acquiring customized software for all aspects of the organisation's operations has the potential to rectify this problem. The software will ensure that requests are sent to management via smartphones and laptops. Once managers receive the alerts, requests are approved and forwarded to the department in charge of that activity like procurement or finance. Again instead of depending solely on physical teams, adopting virtual teams will reduce travel time of team members.

How ICT Can Rectify High Overhead Costs

Storing documents on a drive or any storage device is as expensive as the cost of the device on which it is being saved. This does not apply for saving documents on paper owing to the fact that the bigger the document being printed or photocopied, the more papers and ink used. Space to safely store these paper documents also come at an extra cost. Respondents attested to the fact that storing documents on the company's drives will reduce overhead costs tremendously.

How ICT Can Help in Document Retrieval

Unlike paper documents stored in cabinets, soft copies of documents stored on a computer can be easily retrieved even if those documents are accidentally dropped in the wrong folder. This is achieved by naming files appropriately such that despite the folder in which it is saved, running a search on the computer with the file name of documents pulls out the documents easy access. In recent times, almost all documents can be saved on smart phones.

How ICT Can Cause Employee Personal Development

In order to remain relevant in the organization, respondents attested to the fact that in order to remain relevant in the company; they will willingly acquire training in areas where they are deficient. It did not matter who initiates that personal development program. According to them, it would be ideal to have the organisation initiate it. However if the company does not sponsor, employees affirmed to being responsible for their own personal development, and as a result take charge of training themselves to remain relevant.

C. Training Needs of Employees

There is the need for some level of training for all staff if RPS decides to adopt the paperless management system in its operations. If management opts for customised software for use in all departments, there is the need for all employees to be trained on that software with respect to various roles and functions. Again, site engineers do not have sufficient knowledge on the effective use of computers and laptops in information dissemination – emails. These employees require training in Microsoft Office suite. Some site employees disclosed have never scanned any document by themselves and therefore would require training on the use of hardware so they don't depend on colleagues for some routine tasks. Though outside the paperless system scope, staff also requested training on new technologies in their various areas of operations that will add value to the business and enhance their productivity.

Management was of the opinion that in as much as some of these site employees do not have the requisite ICT skills yet, they will not encounter any difficulty adapting to

changes provided they are given some training. Giving training to staff in the area of ICT applications will cause them to be better equipped for a paperless system.

D. Potential Challenges as a Result of Complete ICT Based Management Systems

High Cost of Customized Software for Some Parts of Operations

RPS currently does not have customized software that guides the entire operations of the company. The main reason for this is the high cost of the complete package. As a result, apart from finance, logistics and human resource departments, all other departments depend on Microsoft Excel for tracking of activities. This is carried out mainly by managers of the said departments. Inputs are hardcopies of documents that have successfully gone through the process of approval and are awaiting the filing process. The same happens for the customized software. Paper filing is highly upheld as if there was no softcopy anywhere else. Software, both customized and Microsoft office suite are often viewed supplements. Considering the fact that software is viewed as supplementary, management finds it difficult to invest in them despite the benefits. Management is yet to accept the fact that every part of the business requires customized software. Currently, a combination of Microsoft Office, Sage X3 for finance and the payroll software are used together with 100% dependence on paper reporting, information sharing and storage

Insufficient Infrastructure to Facilitate Paperless or Less Paper System

Though some ICT infrastructure are currently present at RPS Engineering Services, there is the need for some more investment into infrastructure. Field engineers, drivers and dispatch riders, unlike other office staff, mostly, do not have laptops. They however have mobile phones with internet access to facilitate communication. Printers, photocopiers and scanners have been positioned at vantage points in every department though not present in every office. Field Engineers outside Accra, sometimes rely on internet cafés to have documents scanned to facilitate information sharing via e-mail. Some do not have corporate e-mail addresses so they work with the personal

e-mail addresses or nothing at all. It must however be emphasized that field engineers feel they also need the laptops just as the others and are therefore unhappy with the 'discrimination''. Management on the hand is of the view that a field staff does not need a laptop to work if he is not the team leader as it is the duty of the team leader to be sending reports or interacting directly with clients.

Redundant Staff

Though employees expressed the willingness to adapt to a paperless system, they were unsure if some roles will remain relevant. Drivers and dispatch riders felt their jobs will no more be relevant if documents are stored and distributed in soft. Team leaders whose main tasks are to compile reports will have nothing to do since field engineers will be equipped to send information directly managers. A few employees were observed to feel insecure about their functions and felt introducing the paperless system will further expose their inefficiencies to management, making them prone to redundancy. On the other hand, managers felt there was no cause for alarm as there was always something to be done unless the individual involved deliberately wants to be unproductive.

Difficulty in Meeting Client's Requirements

A section of employees felt adopting a paperless system may cause RPS to be unable to meet requirements of clients whose procedures need paper documents as evidence like invoices, purchase orders and signed checklists for works completed. Auditors also request for hardcopies of receipts, invoices, etc. at the end of the financial year in preparing the annual report. A remedial measure will be to work with vendors and partners who will facilitate a paperless system, otherwise, some part of operations will continue to use paper for various activities.

Insufficient Data and Unstable Internet Access

Employees based in the various regions outside Accra expressed their difficulty in accessing the internet and the fact that even when they do, there is insufficient data to get the required work done. Network coverage in the Northern Regions is not as it is in Accra. Unstable internet or no internet access at all can disrupt a paperless system implemented in those remote areas of the country. Some office support staff attested to the fact that even with the

use of paper, monthly data is insufficient enough to last the whole month. When mobile phone data is exhausted, employees have to supplement on their own from personal resources for official duties. Employees explained the need to increase mobile phone data allotted to each staff to be able to facilitate a paperless system.

E. Other Findings

Willingness to Adapt to the Paperless System

Participants disclosed their willingness to adapt to the change in an instance where management decides to go paperless. None showed any resistance whatsoever though they were skeptical that management will tow that line considering the cost of infrastructure, software, data and training for staff. Management on the other hand were confident of the fact that with the kind of employees at RPS Engineering, migrating to a paperless system will not come with any major difficulty.

Knowledge and Use of ICT as a Recruitment Requirement

Respondents were of the view that most organizations do not request that potential staff possess basic ICT knowledge and application during recruitment. As a result, most people start work, especially in the public sectors not knowing the use of computers for performing tasks. In situations like this, if the need to use ICT never comes up, they do not learn.

Poor Design and Procurement of Required Softwares

Some organizations in the quest to go paperless, fail to assess the right design processes in acquiring customised applications that will meet organisational needs. Procurement processes are not rightly adhered to resulting in applications that are not user-friendly. In a quest to simplify operations, they rather get complicated. Indeed sometimes inexperienced people or those without adequate knowledge about organisational needs are made to carry out the procurement.

Poor Maintenance Culture

The specialized expertise required to maintain some of these networked systems is expensive and most organisations are not so much interested in investing in the area of maintenance. This results in poor maintenance of installed infrastructure. Poor maintenance and upgrade cycles of both hardware and software together with further training means having computerized systems abandoned with time making the paperless system unsustainable.

Records Manipulations

Observation has proven that most people prefer the use of paper due to the fact that records can be manipulated unlike paperless systems which are networked. People are able to hide or promote some malfeasance or the other with the use of paper. Most people believe altering paper documents are much easier than altering computer system documents.

Myth That Only Used Paper Negatively affects The Environment

RPS may have great procedures for disposing of paper, but the increase of carbon footprint on the planet is also as a result of paper manufacturing. This implies that encouraging an increase in paper production by continuous usage equally affects the environment negatively. There are however instances where the other side of a used paper is reused if the document is an internal one as management allows for that flexibility. Paper production in itself has negative influence on the environment. The use of more paper automatically means producing more paper and directly translates to adverse effects on the environment.

IV. Conclusion

Findings from this study have proven that RPS Engineering Services, a telecom infrastructure company, is faced with some challenges that are existent as a result of total dependence on the use of paper for daily operations despite the available ICT resources. Some of these challenges being excessive work delays, high overhead costs, difficulty in retrieving filed documents and underdeveloped employees in some ICT applications.

The research exposed how a paperless system where information and communication technology tools were efficiently used would rectify prevailing challenges at RPS. Respondents attested to the fact that if requests are approved by using software that does not require the physical presence of both parties, work progress will be

faster than what currently exists. The use of virtual teams is another solution to the problem of delays and excess costs in implementing projects and carrying out operations. Again storing information by use of cloud computing will free up space occupied by cabinets.

Again, the study exposed that implementing a successful paperless system will require employees at all the levels to be trained. If RPS as a whole decides to get customized software that will serve all aspects of operations, all employees need to get training on the use of that software. Some employees also require training on basic computer hardware, Microsoft Office as well as the use of e-mails for effective communication. Some staff also referred to being trained on new technological ways of carrying out their operations in order to enhance their productivity.

Implementing a paperless system brings to bare other challenges that require redress. Regarding virtual teams, there is the possibility that employees will take advantage of the flexibility and get involved in other activities which may not be in the interest of the company. Others may exploit the system to the detriment of other team members. Unproductive employees may find refuse in the shadow of the others. In the area of network unavailability or when data is exhausted, work activities will have to be halted or stopped entirely. For external operations which require paper document as validation of work done, RPS may just have to stick with the use of paper so as not to lose these clients and suppliers or get other partners who support the use of a paperless system.

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