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Health Sector Digitalization with Lorenzo

Service Quality Gap Analysis

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# INTRODUCTION

Lorenzo Electronic Patient record systems are provided by DXC technology (Computer Sciences Corporation) as per the company’s agreement with NHS. Lorenzo was first launched in June 2010 at University Hospitals of Morecambe Bay NHS Foundation Trust. The contracts expanded horizontally in the UK till 2017, to have around 19 NHS trusts. Looking at the expansion NHS renewed its contract with the company was given about £10 million for a national “digital exemplar” programme for the National Programme for IT.

Information technology and communications systems are the backbones for every system in today’s digital world. Especially when it comes to national health care – the central storage and availability of patient data, ease of applying national insurance and health care policies and last but not the least providing better and efficient patient care. When such a system fails to deliver quality software, it can prove fatal not only economically but on humanitarian grounds too. The issues faced by end-users while using Lorenzo software led to trust issues with patient data and increased friction between digitalisation and health care further.

# SCOPE

The health care digitalization in the UK is joint efforts of multiple health care systems with NHS this report focuses only on the Lorenzo software solutions provided by iSOFT/CSC for electronic patient records which are used primarily in the northeast cluster, the Northwest and west midlands cluster, and the eastern cluster after the exit of Accenture [1] (contractor for Lorenzo (CSC)) from NPfIT.

|  |  |
| --- | --- |
| 1: The five clusters of the NPfIT | Download Scientific Diagram | Diagram, map  Description automatically generated |
| Figure 1: Five cluster implementation of National Programme for Information Technology in health at the start of the programme | Figure 2: National Programme for Information Technology in Health with local service providers today |

# THE SITUATION

As iSOFT was facing issues keeping the delivery dates for Lorenzo, Accenture exited the program making CSC the only service provider for the majority part of the UK. A relatively new firm couldn’t live up to the expectations and that brought down the entire NPfIT program. The program which started with a dream of digitalizing the entire health sector with goals of direct and indirect patient care objective two decades back now needs another digital transformation as the service quality gaps breached the trust with patients and health care workers. It is said that it requires at least twenty good experiences to establish the trust back. It is a challenge for a new idea or company to get this tested with end-users as the experiences are ruined.

Few issues were minor and resolved over time, but with the health care sector being very risky in terms of correct information issues persisted and disrupted the trust and patient care. The major issues reported against Lorenzo include performance issues, duplication of patient records, losing patient records, wrong surgery schedules, no record for past surgery causing more problems for booking and scheduling in general. There are complaints regarding vital test records such as risk assessment VTE tests being missing from the patient record. The system with the functional challenges and leadership changes, was at a point was having 1000 issues and lagging the schedule by Four years in 2008 which is covering nearly 30 million people in the UK. The software is being built mainly in India for the local service provider CSC and its subcontractor IBA Health which acquired iSOFT. The financial and accounting challenges led to one merger after another, and Accenture leadership lost the trust. With all the challenges Lorenzo couldn’t achieve the goal of digitalization of health sector and patients and health care workers suffered during difficult times such as covid.

Table

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Figure 3: Timelines for Local service provider and NPfIT

# MIND THE GAP

To investigate the reasons why this NPfIT project couldn’t achieve what it aimed for we can use the gap model designed by Parasuraman, Valarie A. Zeithaml and Len Berry, in a systematic research program carried out between 1983 and 1988. The model identifies the principal dimensions (or components) of service quality; proposes a scale for measuring service quality (SERVQUAL) and suggests possible causes of service quality problems. Below gaps on delivery of the product can be proven as gaps between expectations and reality making the product inconvenient in some cases even useless.

## Gap 1 : Customer gap

The gap between expectations and perceptions is referred to as customer gap. Lorenzo after its first release had multiple incident issues raised. This indicates a clear expectation and perception gap between requirements from the software and the one which is delivered. The perception of service was based on other experiences and word of mouth which were not communicated as there is an ethnical and geographical gap between end-user and the employee’s location.

## Gap 2 : Knowledge gap

The knowledge gap between any two departments leading to design and process gap. The performance issues raised are evident that the design was not up to the mark for bearing the requirements of load, security, and availability of the health sector. The evidence review in test environment should have been transparent. The delay in fixing this issue highlights lack of standard process and prioritization.

## Gap 3 : Delivery gap

The delays in delivery and denial of any slippage form original plan is an example of overpromising and not delivering on time. This led to eventual reputational, financial, and more important patient care risks for NHS trusts who adapted the Lorenzo system. Loosing trust of the consumer can derail entire progress for a system which resulted in Accenture to exit and CEO to resign.

## Gap 4 : Communication gap

Inter and intra department communication failures leading to panic and dissatisfaction between employees and strained relations between clients and service providers was a key reason for Lorenzo failure if you refer figure 3. The communication gap, lack of coordination and transparency between contractors and sub-contractors lead to employee dissatisfaction and eventually a huge service gap.

# SUGGESTED CHANGE FOR CLOSING THE GAP

The goal of any electronic record-keeping system is to make the information available to all the users seamlessly in the best terms of availability, security, integrity, and synchronisation.

To improve the overall situation NHS shouldn’t repeat the mistake with EPIC - another company in conversation for delivering more robust electronic patient record system in coming future.

## Change 1 : Market research for IT firm

Before making decision about hiring an IT firm to deliver required health care system it is important as a contractor and governing body NHS does its own market research. This involves not only the direct contractor but also the indirect service providers involved, the reviews of on ground developers, employee satisfaction index and the values by which the company lives by. With this research the contractor can find out obvious red flags which are either inline for improvements or are accepted and ignored. To start this can be analysed with short term contracts to avoid any financial and operational risk.

## Change 2 : Empathy and Communication

Being two different streams health care and engineering not always go hand in hand. Once the IT firm is decided it is very important to close the knowledge gap between the sectors. The empathy for patients and long shift health care workers will encourage every engineer who is involved in software development life cycle to give the best of his work. Strong communication bonds are required between health care workers and on ground employees for rapid feedback loops and fast improvements of the system. While giving first-hand requirements it is necessary to be as unambiguous as possible and not assume anything. Communication between leadership on both sides is a key to plan the delivery, prioritise the work and achieve the operational excellence. If necessary, deploy a negotiator to be on same page in terms of timelines to avoid further conflicts. Keeping each other in loop very early when there is a slippage in delivery or re-prioritization of AED department instead of childcare will help both sides adjust.

## Change 2 : Process standardisations

Ways of working are important for every organisation. At the start of the project spend time in standardising the processes – every small and big process on the table for that matter, commit and agree to the timelines accordingly and mutually. Though Lorenzo is an IT firm for which these changes are required, empathy and understanding of the processes are required form health care sector as well. This will prevent unnecessary expectations from the IT team. Process standardization will serve as backbone and abide everyone to strict SLAs in terms of delivery and accountability.

## Change 3 : Company and employee yearly reviews

Though the contract is signed, and the IT company and health sector are doing great it is always necessary for all leadership involved to keep an eye on each sub-contractor performance ambitions and employee quality. Hire best to get the best job done. Keeping an eye will help deciding future contract decisions and avoid getting into bitter situations.

## Change 4 : Security and resiliency

When it comes to patient and health care workers information, it is vital to provide privacy. The data breach cannot be accepted. Having said that the availability of the data at fingertips with clear historical data, course of treatments and doctors involved should be available and accessible in given geography is a must as well. The IT firm which can take up this challenge of designing and delivering such a system will be an ideal company to develop it. It means the IT firm understands the importance of security and resiliency in health sector and will not undermine it. Data is an asset – the central patient record keeping system should be reviewed to use latest technologies so that the user interfacing systems can excel in the service.

## Change 5 : Gain the trust back with rapid feedback loop

Past experiences with IT in health sector are not quite well, to gain that trust back there will be a rapid feedback loop required to give direction to the development work as well as to encourage it. When it comes to feedback it is necessary to not fall into hierarchy and keep the open communication lines between front end health care workers and IT team who is designing, developing, and testing the software. Leadership needs to meet more often in initial phases of the project and discuss the improvements in numbers making the tangible, present the company well. Focus on good numbers to encourage and bad numbers to improve. A good feedback can avoid multiple issues.

## Change 6 : 24 X 7 IT support

After first release it is necessary to have a high priority process set for resolving every IT issue. As the hospital is a 24 X 7 system it is necessary to deploy a similar IT support team. The main purpose of this team should be to communicate issues to the development team and get them fixed as soon as possible. For training purpose concentrated training camps should be arranged for health care workers over the development cycle and not just after the release of the project. Having a strong IT support means identifying, prioritizing, and resolving the issues fast to save the operational and reputational damage as well as no compromise with patient care. To avoid any downtime, make sure blue green deployment is one of the standard process for the system.

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