

Project Title

Implementation of Self-Payment Kiosks (SPKs) at TTSH Eye Clinic

Project Lead and Members

Project lead: Liliam Lam, Senior Executive

Project members:

- Winnie Koh, Asst. Director, Ops (Eye)
- Lilian Lam, Senior Executive, Ops (Eye)
- Angela Ang, Patient Service Executive, Ops (Eye)
- Yan Sui Wah, Asst. Director, MEC Masterplan
- Wendy Tan, Manager, MEC Masterplan
- Ng Wee Boon, Manager, Outpatient Management Unit
- Chang Hwee Li, Asst. Manager, Business Office

Organisation(s) Involved

Tan Tock Seng Hospital

Aims

To enable a seamless and hassle free payment journey for patients

Background

Eye Clinic has the highest specialist outpatient clinic (SOC) load in TTSH, where around 150,000 patients are seen annually. With this workload, wait time for patients at every touch point is long, leading to frustrations in our patients. One such touch point is the payment counter, where patients have to wait even after seeing the doctors. Collection of payment at counters manned by staff also means that staff will have to conduct opening and closing of counters – a process where cash collected have to be counted, tallied, and verified by both the counter staff and supervisor manually. This process is often tedious and laborious. In addition, the heavy load and fast-paced setting meant that human errors are frequent, which leads to even more paperwork to record these discrepancies (correction memo). The team also identified that these

manual processes are the key reasons for mistakes and rework and hence affecting the waiting time of patients at the payment counters. Therefore, a self-help and digitalised process is designed to address these issues.

Methods

See attachment

Results

See attachment

Lessons Learnt

- **Give ample time and support for patients and staff to get used to the new norm**

Patients were unfamiliar with the new payment methods when the self-payment kiosk (SPK) were first rolled out. Brochures describing the new process were given to patients at registration and a staff is stationed to assist patients when needed. To get staff prepared, trainings were given and posters were also put up in consultation rooms.

- **More time for system and interface testing**

There were several system and interface issues during the first few weeks of implementation. To tackle this, we met up with IHIS and IBM team every evening to follow up on every issue. It is important to set aside more time to test the system, so that problems can be surfaced and resolved before the actual rollout.

Conclusion

Right at the beginning of the project, the working committee is mindful that this project would be more of a change management project rather than just an IT implementation initiative. Hence, much efforts were invested in addressing concerns and getting the buy-in from various stakeholders. While being the pioneer of this initiative meant that the department would need to design the workflow from scratch with no reference to take from, the success story of Clinic 1A serves as a motivating

factor for the rest of the SOCs to come on board. Also, Clinic 1A had the privilege to get first-hand information and had a say in how the user interface is to be designed. Hence, do not hesitate to be the first mover, it does come with advantages!

Project Category

Automation, IT & Robotics

Keywords

Automation, IT & Robotics, Change Management, Specialist Outpatient Clinic, Digital Payment, Patient Payment Experience, Zero Cash Handling, Waiting Time, Error Rate, Outpatient Management Unit, Business Office, Eye Department, Tan Tock Seng Hospital, Self-Payment Kiosk, Kotter's 8-Step Change Model, 1-Bill-1-Queue

Name and Email of Project Contact Person(s)

Name: Lilian Lam

Email: Lilian_lam_lai_ying@ttsh.com.sg



Tan Tock Seng
HOSPITAL
National Healthcare Group

Implementation of Self-Payment Kiosks (SPKs) at TTSH Eye Clinic

Tan Tock Seng Hospital

Winnie Koh, Lilian Lam, Angela Ang, Yan Sui Wah, Wendy Tan, Ng Wee Boon, Chang Hwee Li

The Self-Payment Kiosks (SPK) are digital kiosks which allow patients to make payment for their medical bills after their visits in the clinic. The implementation of SPKs was piloted at Clinic 1A (Eye Clinic) in Tan Tock Seng Hospital (TTSH).

With the implementation of the SPKs in Clinic 1A, patient wait time has reduced tremendously by 70%, and the error rate of payment collection has reduced by 100%, hence improving patient and staff satisfaction.

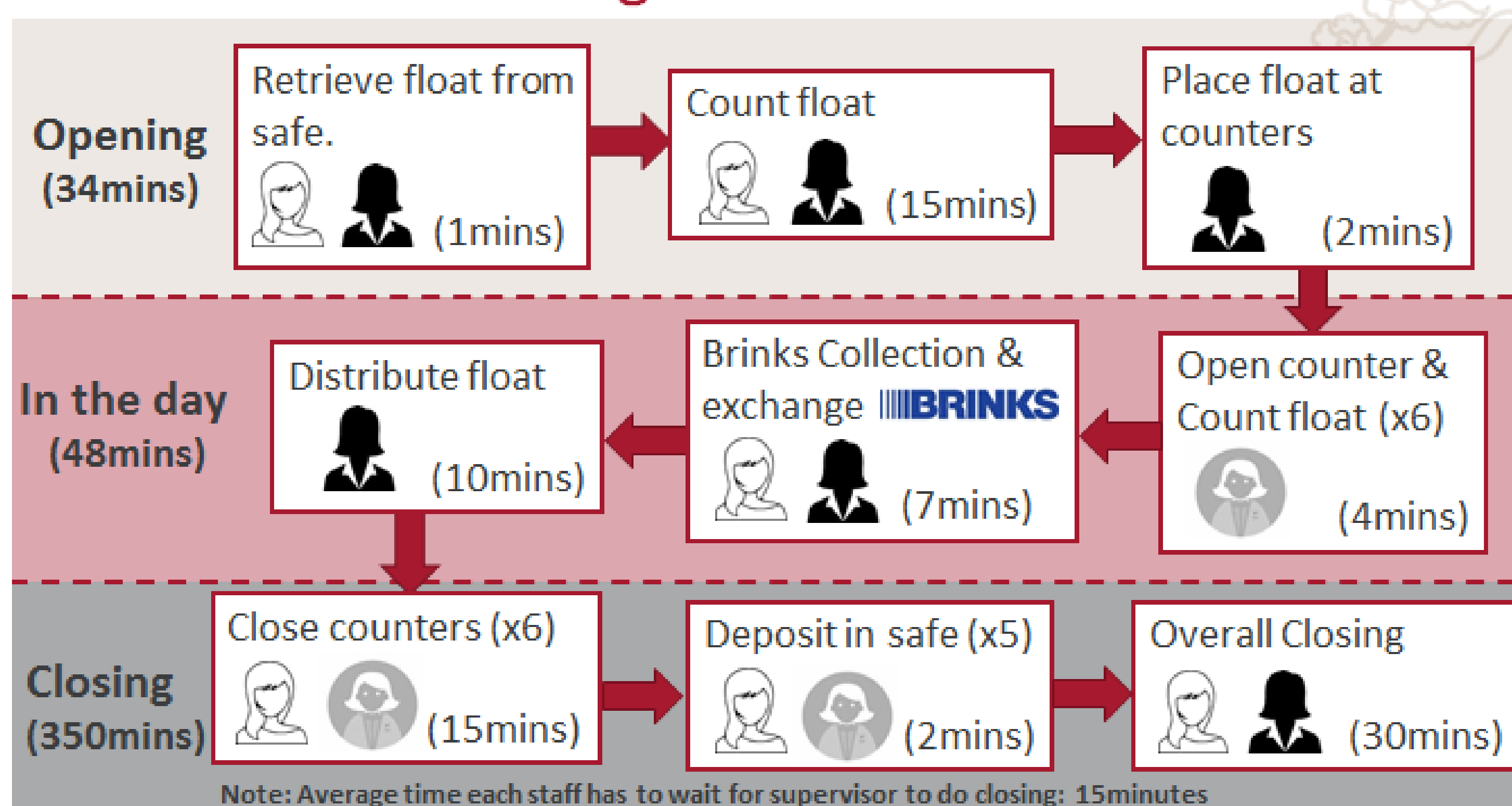
Problem

150,000 patients are seen annually in TTSH Eye Clinic, resulting in long waiting time for patients, such as at payment counters.

| Indicator | With Payment Counters |
|--|---------------------------------------|
| Average transaction time for payment | 3 minutes |
| Average wait time for payment | 10 minutes <i>*Maximum: 1 hour</i> |
| Average no of correction memos per month | 23 |
| FTE required | 6 |

Collection of payment at counters manned by staff meant that staff will have to conduct opening and closing of counters – a process where cash collected have to be counted, tallied, and verified by both the counter staff and supervisor manually. This process is tedious and laborious. In addition, the heavy load and fast-paced setting resulted in frequent human errors, which led to more paperwork to record these discrepancies (correction memo). These manual processes have been identified as the key reasons for mistakes and rework and hence affecting the waiting time at the payment counters.

Current Cash Counting Process



Total Cash Counting = 7.2hrs/day

Legend: Supervisor Pin holder Payment counter

Strategy

Kotter's 8-Step Change Model:

1. Create a sense of urgency
2. Build a guiding coalition
3. Develop the Vision
4. Communication for buy-in
5. Enable action by removing barriers
6. Generate short term wins
7. Sustain acceleration
8. Institute change (make change stick)



Results

After the SPK was launched at Clinic 1A, improvements were seen:

| Indicator | With Payment Kiosks |
|---|----------------------------|
| Average payment transaction time | Less than 1 minute |
| Average payment wait time | Less than 3 minutes |
| Average no of correction memo per month | 0 |
| FTE required | 3 |

In addition, intangible benefits include:

1. Increase staff satisfaction
2. 1-Bill-1-Queue rate has also improved
3. Alignment with our country's movement towards a SMART nation.
4. More space – creation of 2 more clinic rooms for services