

Lean Sigma A Continuous Improvement Methodology

By

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What is Lean Sigma

Lean Sigma is a methodology for improving existing processes to derive tangible value by making the process Safer, Better, Faster and lower Cost.

Lean

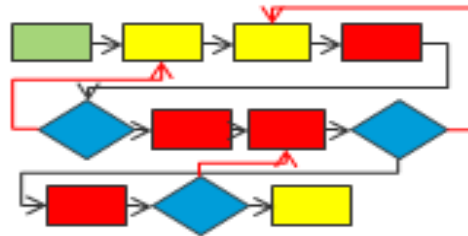
- Simplify processes
- From Toyota Production System
- John Krafcik 1988 article
"Triumph of the Lean Production System" MIT MBA studies
- International Motor Vehicle Program (IMVP) at MIT.
- Works by elimination of all forms of waste*
- Continuous Improvement.
- Provides a management system for ensuring improvement efforts are focused

Six Sigma

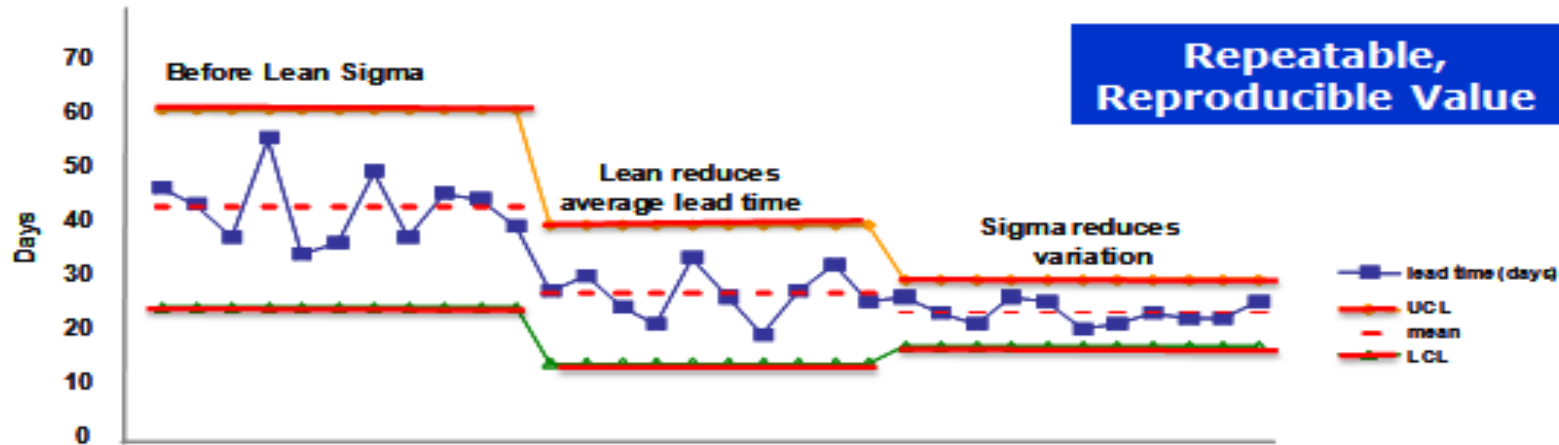
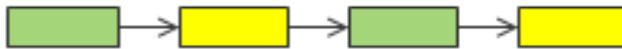
- Perfect processes 'Consistency in performance'
- Developed by Motorola in 1986
- Jack Welch made it central to his business strategy at General Electric in 1995.
- Works by reducing process variation*
- Has roadmap and tools for consistent logical approach.
- A six sigma process is one in which 99.99966% of products are statistically expected to be free from defect (3.4 dpm).

Lean and Six Sigma

Lean



**Doing the Right Things,
Adding Value**



Leaning the Process of Final Certificate Collection in Tertiary Institutions in Nigeria

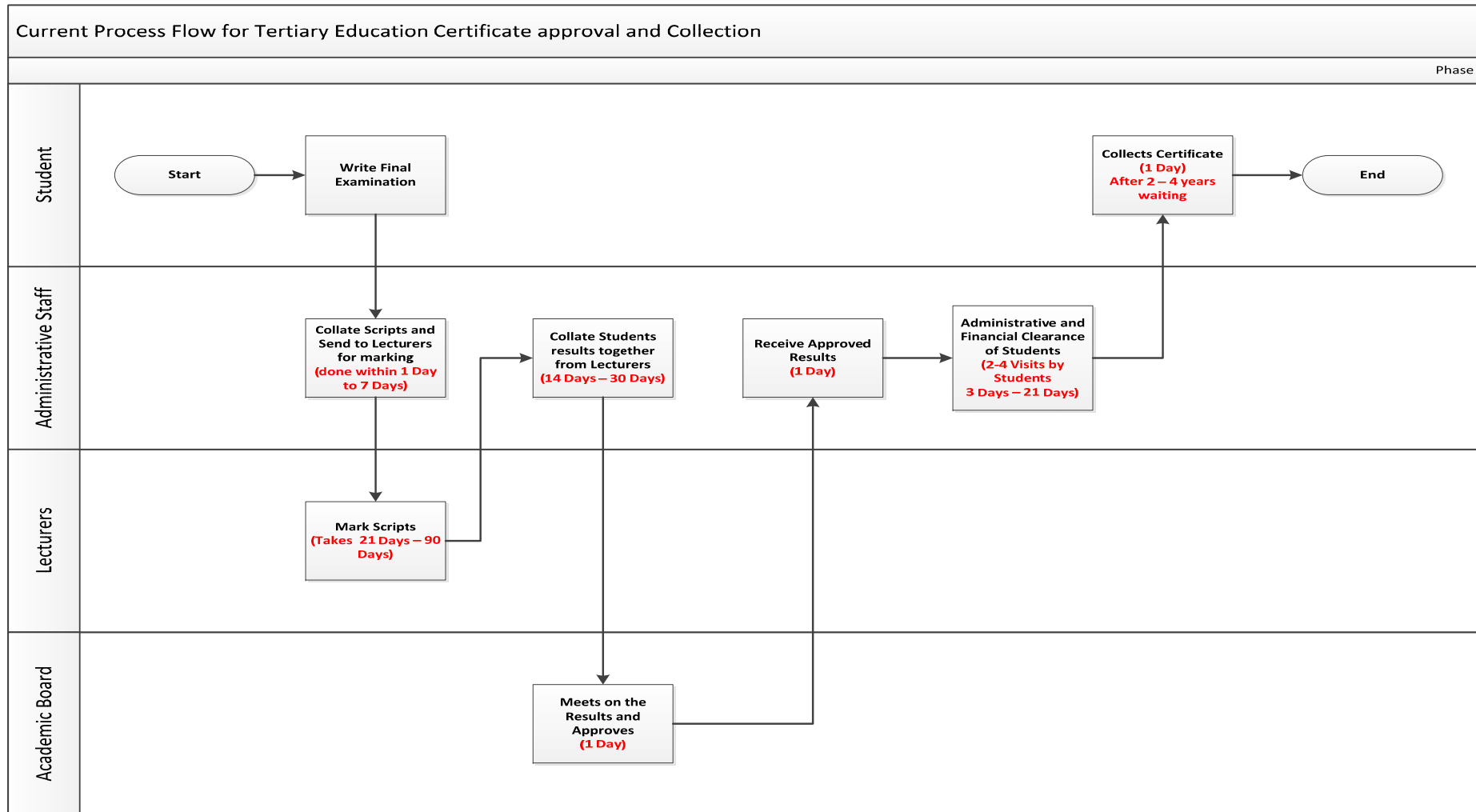
Research Brief

This research takes a holistic look at the process of collecting final Certificate in Public and Private Tertiary Institutions in Nigeria, with a critical consideration of the non-value adding activities in the process and the customers' view.

This research adopts a quantitative research approach using information generated from questionnaires returned from an extensive survey.

The research provides a practical view of the customers' voice in a process which affects both Public and Private owned Tertiary Institutions in Nigeria and proffers a Lean Solution to the existing process.

Current Process Flow

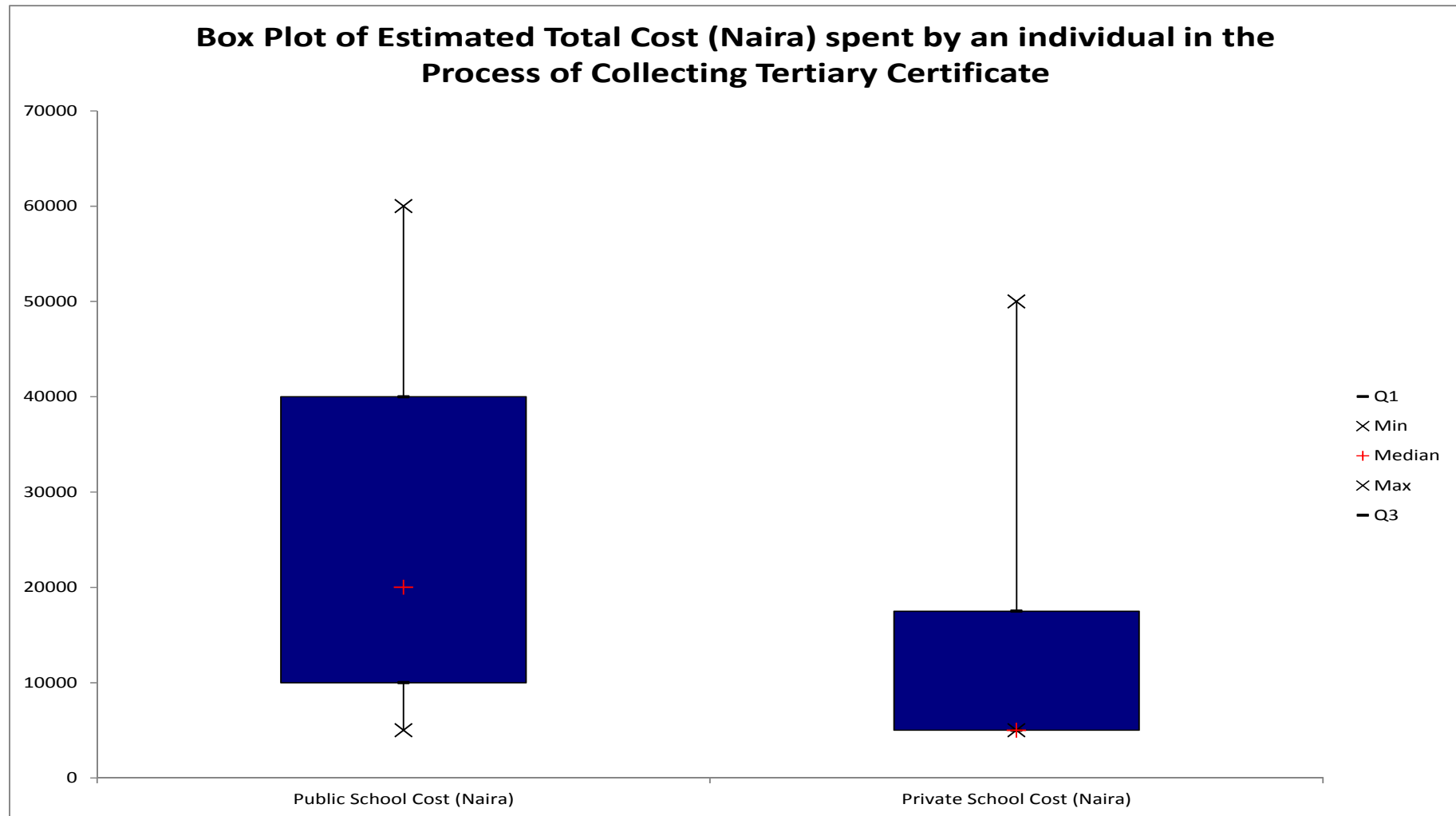


Summary Statistics of Questionnaire

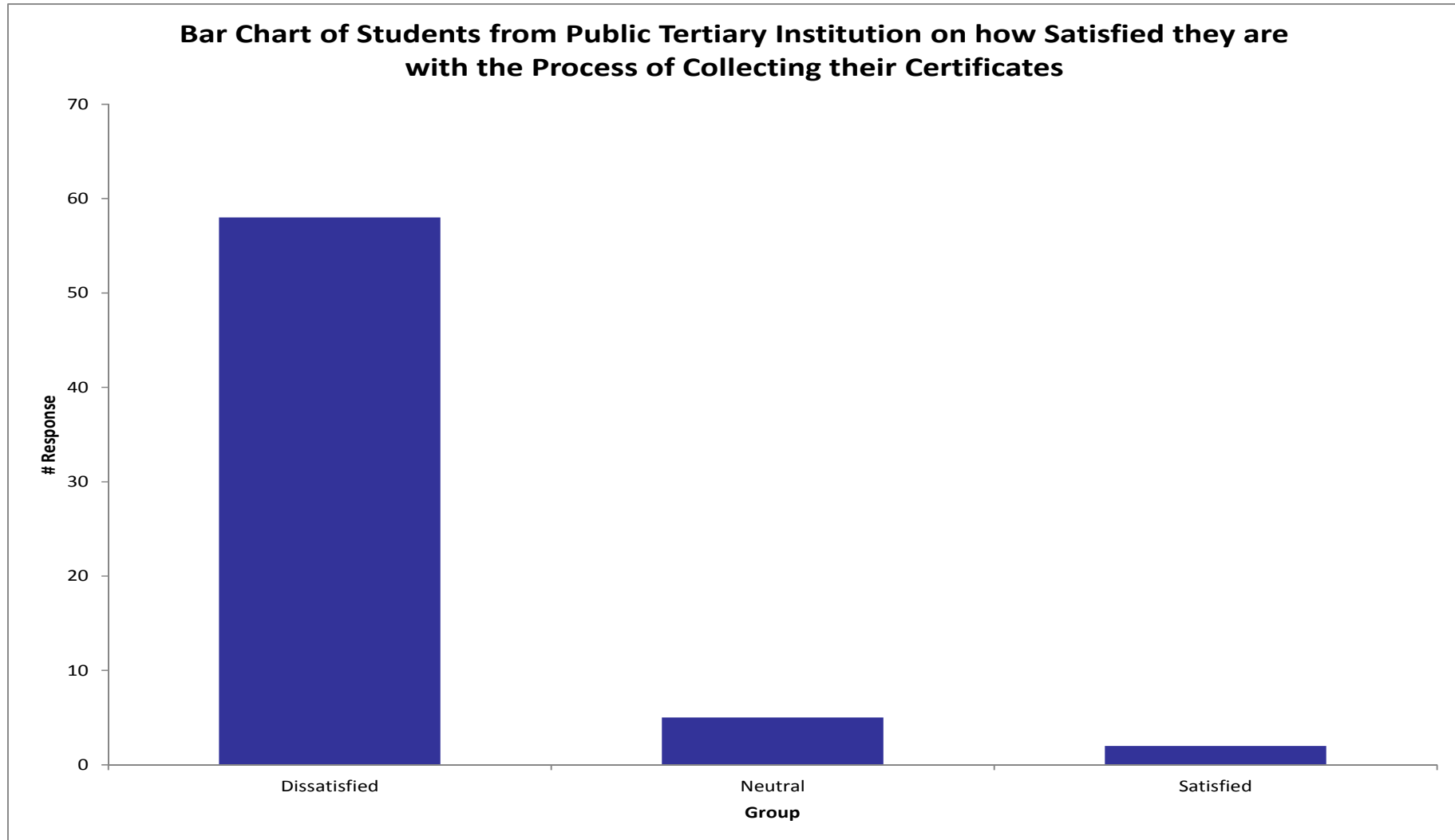
A total of 200 Questionnaires were distributed, 127 were returned out of which only 121 were usable. The sample is constituted by graduate from both Public and Private Tertiary Institutions in Nigeria who had finished their studies and collected their certificates.

| | Grad Year | Time in Collection (Years) | # of Repeat Visit | Cost (Naira) |
|--------|-----------|----------------------------|-------------------|---------------|
| Count | 121 | 121 | 121 | 121 |
| Mean | 8 | 3 | 4 | NGN 22,892.56 |
| Median | 10 | 3 | 5 | NGN 20,000.00 |
| Mode | 10 | 4 | 6 | NGN 20,000.00 |
| Max | 11 | 4 | 6 | NGN 60,000.00 |
| Min | 2 | 1 | 2 | NGN 5,000.00 |
| Range | 9 | 3 | 4 | NGN 55,000.00 |

Avoidable Cost in the Process



Dissatisfaction especially in Public Schools



Discussions & Recommendation

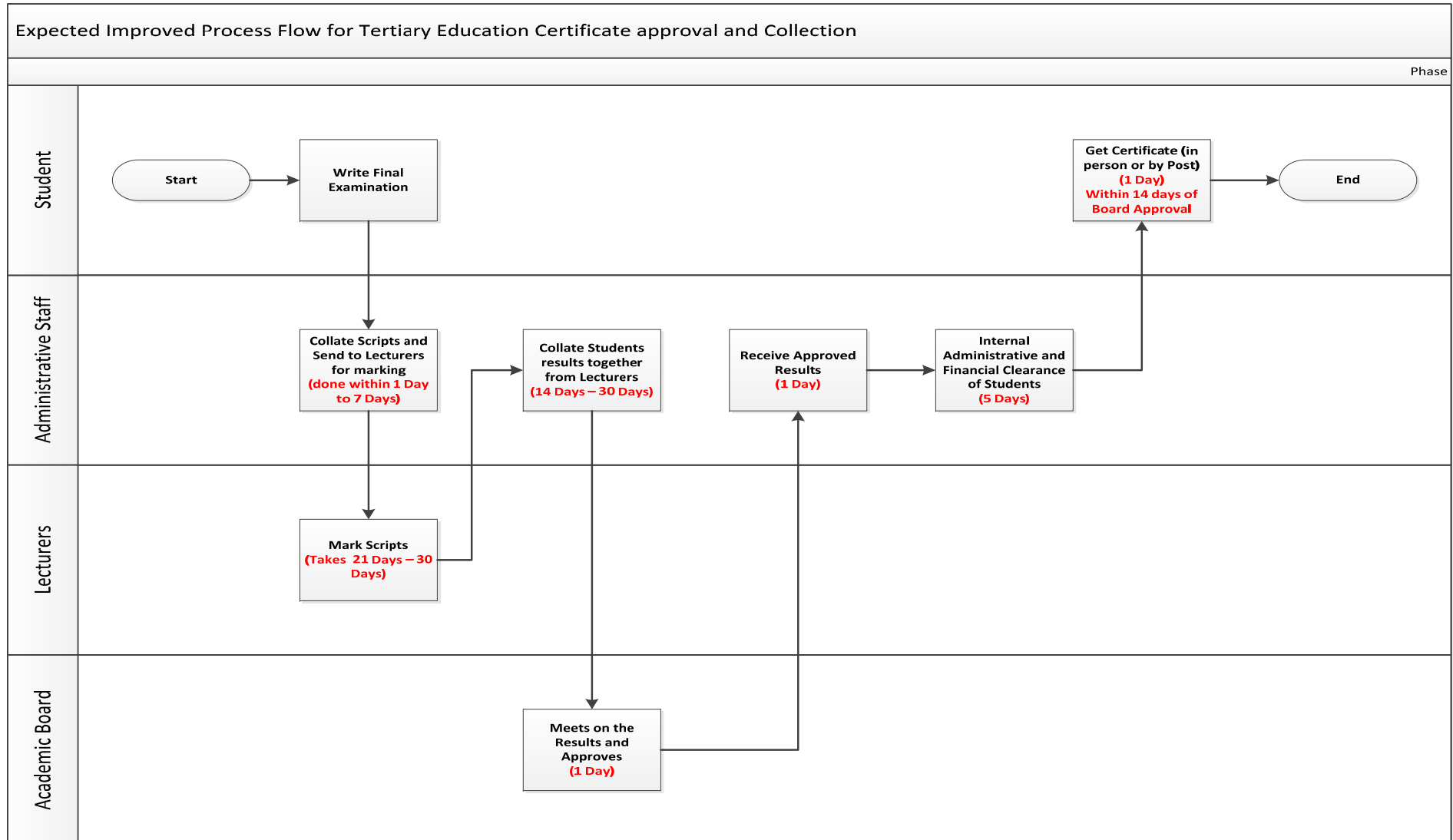
Discussions

- **90% of the respondents which represent 109 of the 121 respondents agreed that the main challenge with the certificate collection process are the various form of clearance. A lot of time and resources are spent on these non-value adding activities and other administrative bottlenecks that impact on students.**
- **Students in Public Schools wait as much as 4 years before finally collecting their Certificates, while those from Private Schools wait for a year.**
- **The total avoidable cost of collecting certificates which include transportation and accommodation for multiple visits to school after final examination could be as much as NGN60,000 (equivalent to £214).**

Recommendation

- **To improve the process, all forms of Administrative and financial clearance of students after final examination should be done internally using already existing records from school's database. The students do not need to pay multiple visits to school as these time used and associated cost are waste.**

Expected Improved Process Flow



Thank You

Questions?