

## IMPROVING THE BIOMETRIC DATA COLLECTION PROCESS THROUGH SIX SIGMA

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### Overview

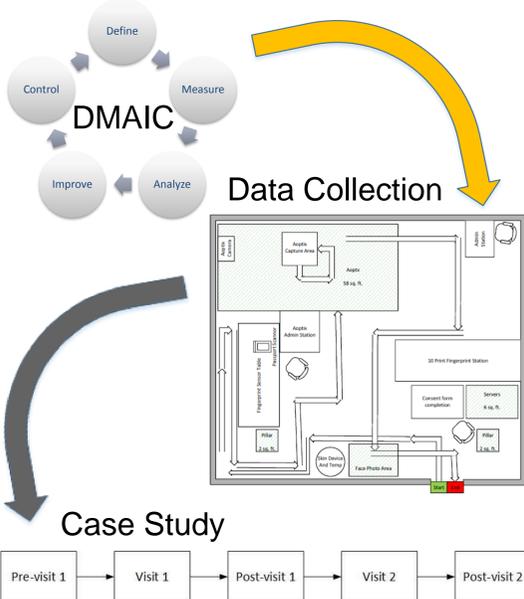
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Since Six Sigma's applications have been maturing and expanding into other industries, can Six Sigma be applied to the biometric industry? An area Six Sigma could be applied too is the process of improving quality of data collection. An example utilized to discuss Six Sigma application was through a case study approach using Brockly's study (2013). Brockly's study investigated what effect biometric multimodal data collection procedures and the test administrators had on the quality of data collected.

#### 1. RESEARCH QUESTIONS

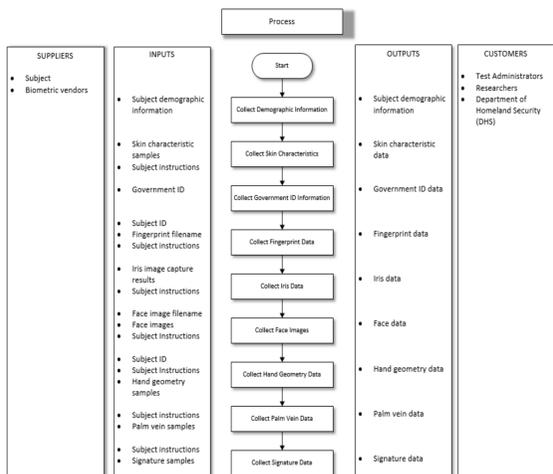
1. Can Six Sigma be applied to a biometric data collection?
2. By applying DMAIC, did other potential causes and solutions emerge that were not considered from the case study?

#### 2. SIX SIGMA & DATA COLLECTION



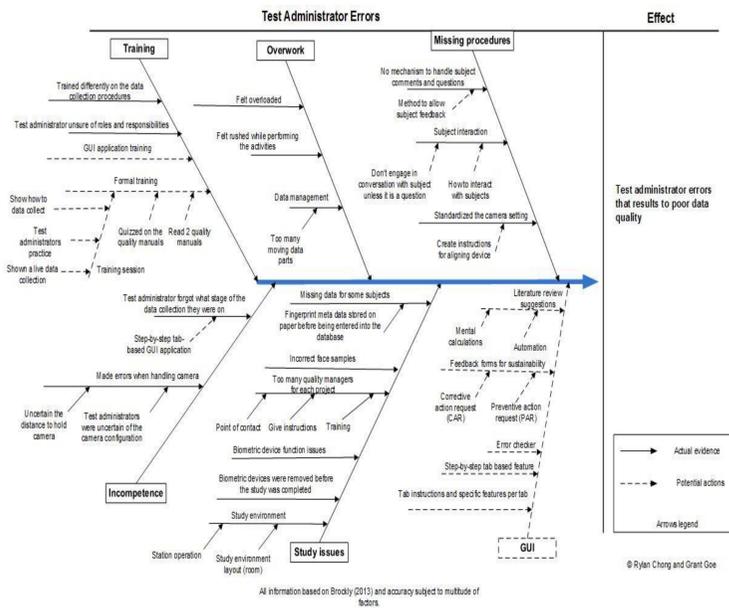
#### 3. DEFINE & MEASURE STAGES

GOAL: To illustrate and organize the case study, a SIPOC diagram was created in order to establish a framework and boundaries for analysis.



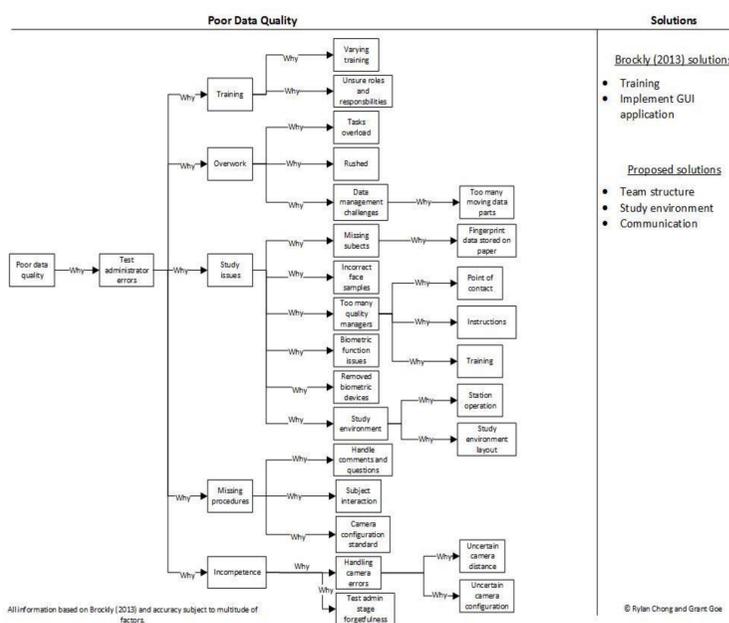
#### 4. ANALYSIS STAGE – PART A

GOAL: To find the root cause of the problem, identify gaps in the existing research, and establish potential solutions.



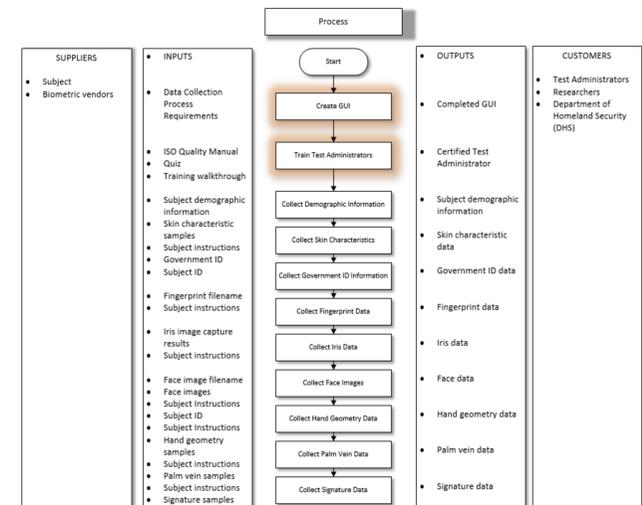
#### 5. ANALYSIS STAGE – PART B

GOAL: To expand the cause & effect analysis to find potential solutions to the problem.



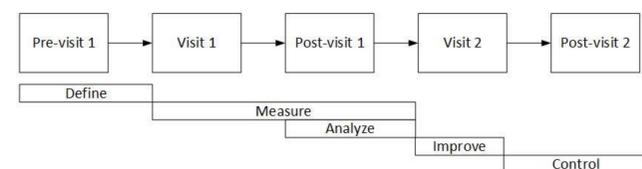
#### 6. IMPROVE & CONTROL STAGES

GOAL: To identify and map the case study solutions to the original process methodology.



#### 7. DISCUSSION & CONCLUSIONS

1. Can Six Sigma be applied to a biometric data collection?



2. By applying DMAIC, did other potential solutions emerge that were not considered from the case study?

CAUSES	CASE STUDY SOLUTION	ADDITIONAL IDENTIFIED SOLUTIONS
Training	Training	Communication, team structure
GUI	GUI	N/A
Missing Procedures	GUI, Training	N/A
Incompetence	Training	Team structure, study environment
Study Issues	GUI, Training	Team structure, study environment
Overwork	GUI	Team structure, study environment

#### REFERENCES

Brockly, M. E. (2013). *The role of test administrator and error*. Purdue University, West Lafayette, IN.

International Center for Biometric Research. (2014). *International Research in Homeland Security & Technology Mission Areas "Biometric Uniqueness and Permanence Analysis" Final Report*.