

## Testing Business Model of the Future – Testing “Before Actual Testing” Using Artificial Intelligence



✦ Artificial Intelligence Framework Testing (AIFT) is a model that relies on Artificial Intelligence algorithms for generating & executing tests based on the code being developed & customizations being done by the Customer on the end product to ensure the Software testing life cycle is faster, efficient & mimics a human brain thereby achieving higher throughput & better time management in order to provide quicker, efficient & zero defect delivery to the customer.

✦ Concept of AIFT is to start the process of Software Testing life cycle “Before Actual Testing” takes place by Usage of Artificial Intelligence algorithms.

### Problem Statement

#### Product vendor



Sells product & Support services  
(Involves base Product QA for patches/newer versions/Enhancements)

Minimal Interaction



Business Owner



Business Analysts



IT Services Vendor

### Business Testing Model Of The Future -- Artificial Intelligence Framework Testing (AIFT)

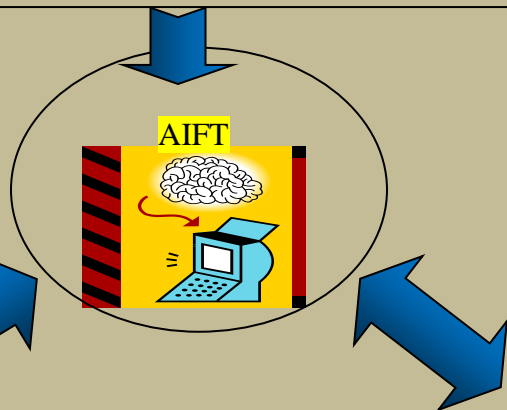
Provides QA services --  
Automation/Manual/Security/Compatibility...



Business Owner

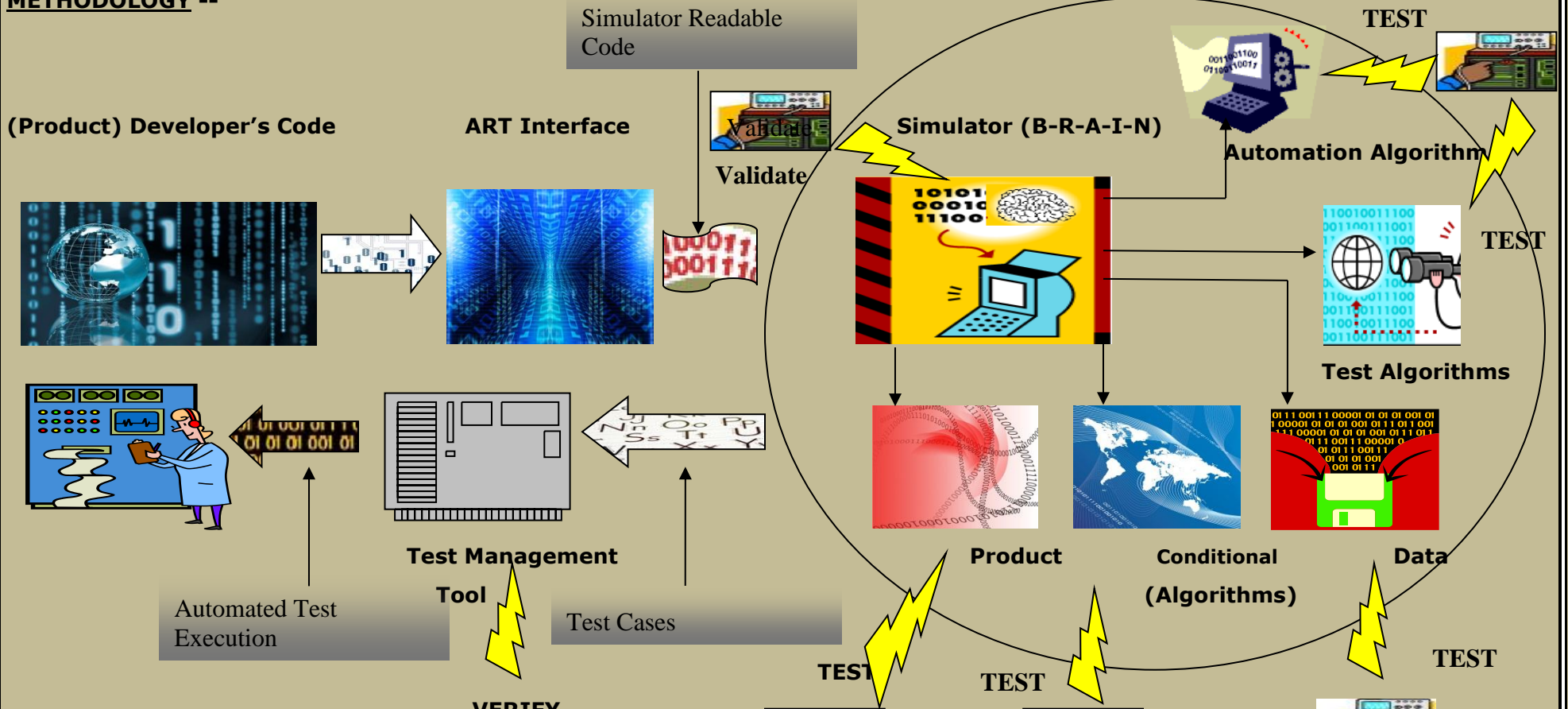


Business Analysts

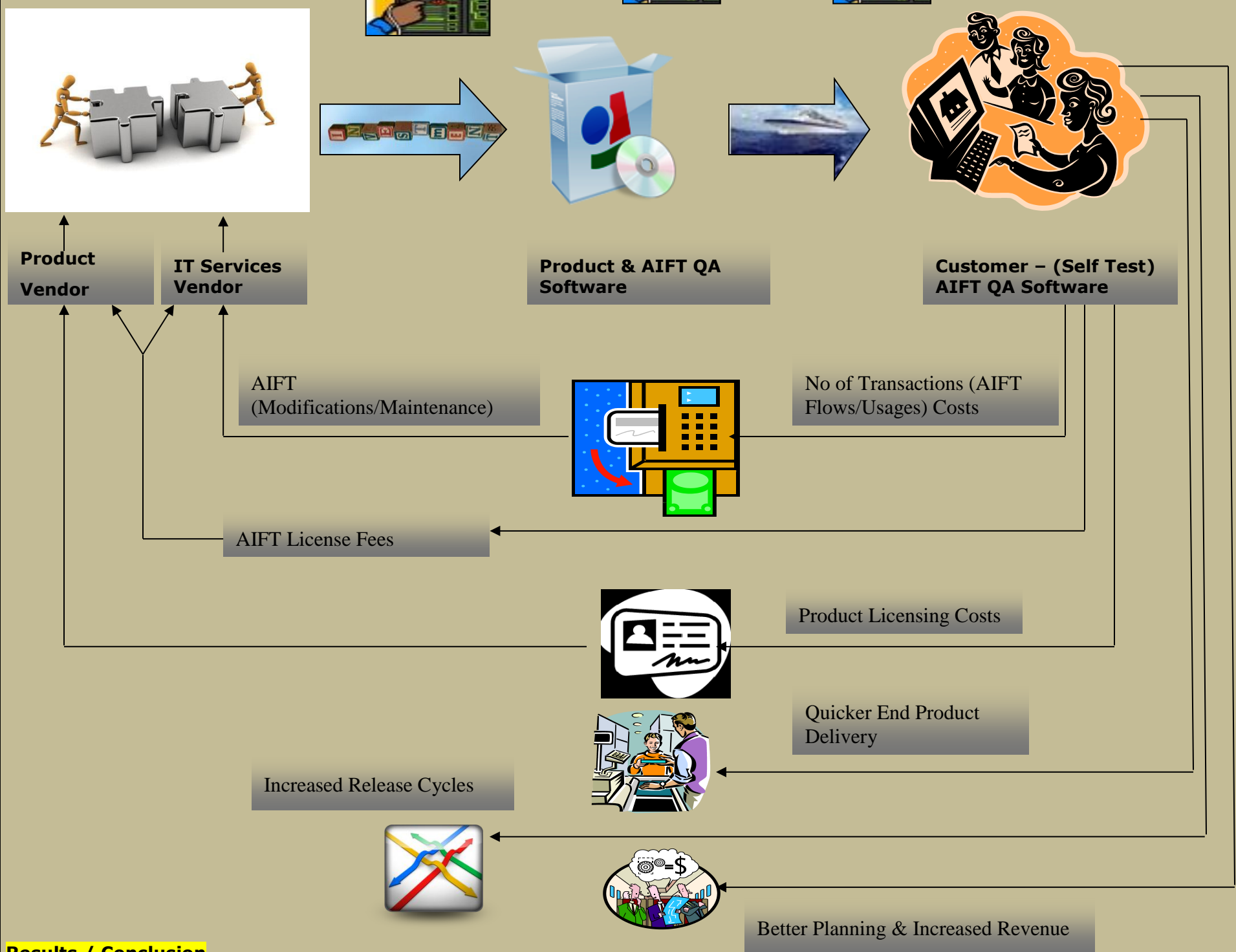


- ✦ Simulator (Brain) – The brain of the Artificial Intelligence framework (AIF) that reads/interprets/collects/collates all data from different algorithms that source data into it & also helps output the same in a re-usable form that helps generation of tests.
- ✦ Product Algorithms – Developed code automatically triggers events onto the simulator that helps generate key information about Module, type of condition(s) for which the code has been developed, it's importance in the module, omitted conditions if any based on Conditional Algorithms. These algorithms are also generated based on changes made to the application
- ✦ Conditional Algorithms – Set of key intelligent parameters that take into account application characteristics, specified Input conditions, Application triggered event(s) dependencies, that helps identify missing conditions from the code developed. These mainly help in generation of tests that clearly identify gaps in developed code.
- ✦ Data Algorithms – Algorithms that identify each unique criterion (parameter) & define a range of values based on the type of condition being developed. These would help generate/maintain variants of Test Data needed for testing.
- ✦ ART Interface – ART interface is the component that would read the application/product code & de-code the same to a Simulator readable format. This is another key component in the AIF that helps conversion of product code to be useful to enable use of Artificial intelligence testing.
- ✦ Test Algorithms – Algorithms that help maintain uniqueness for each test generated as part of the test case generation process within the Artificial Intelligence Framework. This ensures standard maintenance of tests generated every time there is a change in code & also ensures automatic updates to include new enhancements.
- ✦ Automation Algorithms -- Automatic script generation would be helpful in the execution of generated tests. This is achieved through built in automation algorithms that capture functionality by means of “User Navigation” for defined functional flows.

**METHODOLOGY --**



**BUSINESS MODEL --**



**Results / Conclusion**

This paper introduces the concept of AIFT as a hypothetical concept that would manifest as one of the key Testing Business Model of the future with the contemporary world looking for innovative models of Development & Testing to deliver Faster with better quality & minimal operational cost.