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# A/B Testing Theory for ENIAC

1. How many different versions should be tested?
2. What kind of changes can we implement in each version of the test, ranging from simply changing the color of a button to redesigning the whole site?

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# How Many Versions Should Be Tested?

The number of versions generally depends on ...

- **Traffic Volume:** More traffic = more versions possible.
  - Higher traffic allows for testing more versions simultaneously, as it ensures sufficient data for each variant.
- **Testing Resources:** More versions require more setup & analysis.
  - Each additional version requires more resources for design, implementation, and analysis.
- **Statistical Significance:** Too many versions can dilute results.

Best practices for the number of versions are ...

- **Basic A/B Test:** Test 2 versions (A vs. B) for clear insights.
- **Multivariate Testing:** Test multiple changes at once. But this requires higher traffic.
- **Iterative Testing:** Start with small changes, then expand based on results.

→ Basic hypothesis needs to be clear and sharp!

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# What Kind of Changes Can We Test?

## Minor Changes: Quick & easy to test

- Button color, CTA text, image changes
  - a. Changing a button color → Small impact, quick test.
  - b. Changing CTA wording → Medium impact, needs tracking.

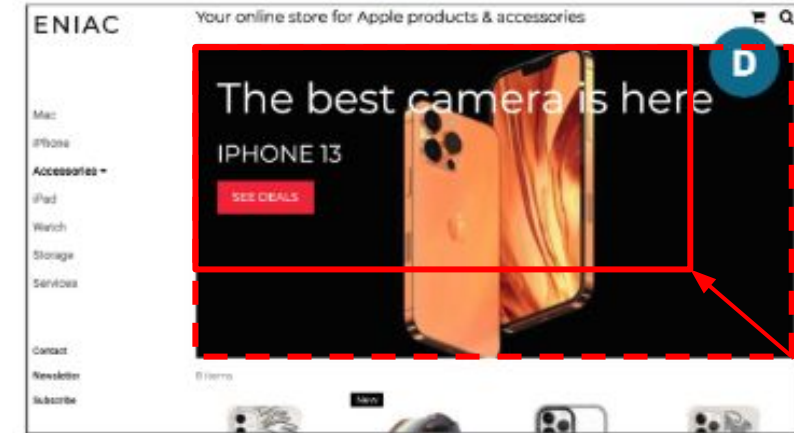
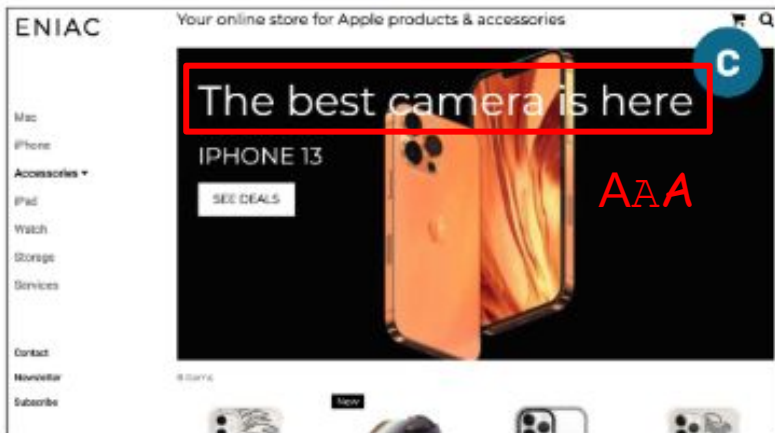
## Moderate Changes: More noticeable impact

- Page layout, form length, pricing display, product information text

## Major Changes: Can drastically affect user behavior

- Website redesign, checkout flow overhaul
  - a. Complete homepage redesign → High impact, complex test.





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# A/B Testing for ENIAC

## Avoid common mistakes:

- **Testing too many versions at a time:** Stick to **manageable** changes. Don't irritate the customer!
- **Stopping the test too soon:** Ensure statistical significance.
- **Ignoring qualitative data:** Combine **user feedback** with test results.
- **Don't make any changes (in design) during testing!**

## Recommendations for ENIAC:

- **Prioritize High-Impact Areas:** Focus on CTAs, headlines, and conversion points.
  - ENIAC's home has much traffic (50K) > Start with **4 versions** for A/B tests > different colours CTA
  - **Data-Driven Decisions:** Combine the overall business knowledge on ENIAC for set-up and analysis interpretation, Use **data** to guide decisions, not just assumptions!
  - **Start Small:** Test incremental changes before full redesigns based on impact and resources
  - **Have a testing roadmap & good documentation:** Create clear hypothesis & planning, document testing insights and check the expected outcome!
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# Additional sources

- <https://contentsquare.com/guides/ab-testing/>
  - <https://www.nngroup.com/articles/ab-testing/>
  - <https://vwo.com/blog/ab-test-multiple-changes/>
  - <https://unbounce.com/landing-page-articles/what-is-ab-testing/>
  - <https://www.fullstory.com/blog/ab-testing/>
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  - <https://www.aillum.com/blog/a-b-testing-4-types-of-a-b-tests-to-try-on-your-website/>
  - <https://www.optimizely.com/optimization-glossary/multivariate-test-vs-ab-test/>
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