



SWOT ANALYSIS EXAMPLE

I conducted a SWOT analysis of “Characterization and Separation of Cancer Cells with a Wicking Fiber Device” by Tabbaa S.M., Sharp, J.L. & Burg, K.J.L. Ann Biomed Eng (2017) 45: 2933. <https://doi.org/10.1007/s10439-017-1909-2>. The manuscript describes the initial proof of concept studies for a new, fiber-based technology that is intended to provide predictive information about breast cancer. Overall, the technology is quite simple and exciting; however, I have noted several areas where further consideration by the researchers would significantly maximize the potential impact of the work.

SWOT ANALYSIS

Strengths (what are the positive features of the research? Add or subtract bullets as needed):

- The technology addresses a clinical need where there is a paucity of inexpensive, rapid turnaround predictive technologies.
- The low complexity (e.g. no electronics) may allow rapid screening in a wide variety of clinical settings with varied financial resources.

Weaknesses (what are the significant flaws or gaps in the work? Add or subtract bullets as needed):

- The authors do not describe any testing of cells extracted from blood or tissue – the sticky residue from blood or tissue may confound cell motility differences.
- No clinical co-authors are listed, nor does there appear to be clinical/customer input

Opportunities (what aspects of the work, either realized or not, might lead to future impact? Add or subtract bullets as needed):

- If the technology proves successful for breast cancer, it can be readily adapted to other clinical applications where differences in presence of cellular populations yields clinically relevant information.
- A clinical collaborator would be enormously helpful in launching the idea toward clinical reality.

Threats (what are the severe weaknesses that impinge on the future success of the research? Add or subtract bullets as needed):

If the technology is reliant on circulating tumor cells, the value added is not clear (circulating tumor cells implies late stage, known cancer).