
Book Review

She's in CTRL: How Women Can Take Back Tech

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Published: September 1, 2024

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Publication Date: 2023

Publisher: London: Penguin

Price: £10.99 Paperback

Number of Pages: 304 pp.

ISBN: 978-0-552-17838-9

'She's in CTRL' opens up the conversation about women in tech in an honest but accessible way. It is a book which is not only directed toward, and to be read by, feminists who wish to understand more about tech but is also an eye-opener for any individual working in tech who may wish to learn more about the societal issues faced by women in the industry. Whilst the content of this book is not new, by reading this book, anybody could gain a greater understanding and appreciation of women in the tech industry, and therefore should be read by feminist scholars and those within computing alike.

The book begins with the author's journey with technology, taking a VHS player apart and making PowerPoint presentations for her father as a child. Their fascination with tech grows further, and they learn to dissect websites and build their own. The motivation for these behaviours remains consistent throughout this journey: curiosity. Without using so many words, Imafidon highlights the importance of a growth mindset in tech. This is supported by a body of existing work spearheaded by Dweck (2017), whereby gender differences can be found in growth and fixed mindsets as a result of the differing ways children are taught to accept and embrace, or not, challenges that they might encounter. Namely, young girls are often taught to accept the *status quo*, whereas young boys are taught to question and challenge their surroundings (Yu, McLellan and Winter, 2021). Imafidon also highlights the importance of imagination throughout this book, with one of this author's favourite examples being that of casting a woman as *The Doctor* in the BBC television programme, *Doctor Who*. While imagination is a critical part of the development of this programme, as 'a fictional series, set in a made-up world', the main character whose actor changes every few seasons, was not cast as a woman for decades. The importance of this is perfectly captured within this quote:

Do not restrict your imagination, do not put a cap on your dreams. It only limits the dreams and creations of others, and fails to serve the needs of the underprivileged and excluded.

In Chapter 5 of the book, Imafidon dives into the challenges faced by women and girls in STEM subjects, often drawing on inspiration from Laura Bates's work in The Everyday Sexism Project. Bates, known for her insightful books such as *Men Who Hate Women* (2021) and *Fix the System, Not the Women* (2022), provides a backdrop for Imafidon's exploration of how girls often encounter dismissive attitudes towards their interests in STEM, beginning during their schooling. In a poignant observation, Imafidon notes that 'girls aren't expected to survive the computer science term.' The innate sexism which still exists throughout the education system is therefore not

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only preventing girls from progressing in STEM, but actively sending out the message; that if they try, they are expected to fail (Franklin, 2013; Langhout and Mitchell, 2008). The author therefore underscores the needs to fix the system in which women are currently being failed, rather than placing the burden of change on women themselves.

Throughout the book, Imafidon also addresses a number of systemic issues which contribute to gender disparities in the tech industry, particularly in the context of caregiving responsibilities. Drawing on the stark reality that women are frequently tasked with caring and childcare duties in addition to their working lives, they emphasise how the coronavirus pandemic exacerbated these imbalances due to the additional expectation placed on women of homeschooling their children, as well as remote working; a reality highlighted by Vincent-Lamarre in 2020. The author argues that this imbalance in time and responsibility reflects the societal norms which are ingrained into the system, and from which they advocate for a systemic overhaul to allow for a reduction in future gender disparities. In this context, Imafidon also introduces the idea of utilising technology to reclaim control, aptly stating that we can use technology as a tool for taking back 'CTRL' in the face of these systemic challenges. This insightful exploration of how women can use the systems which have previously held them back as a method for reclaiming the balance within the system perfectly aligns with the broader theme of the book, and as such, urges readers to consider technology as a powerful force for reshaping our current societal norms to empower women in traditionally male-dominated fields like the tech industry.

On the progression of tech, Imafidon urges women to be included in this conversation as equal voices. The importance of this is supported by research in the HCI (Human Computer Interaction) space by Ashcroft (2022), which focused specifically on how gendered language may impact design decisions when there is diverse gender representation in the room. The impact of gendered language on technology is also explored in this book. The author recalls specific examples of their own journey into the tech field being referred to by relatives as "little techie things", which is reminiscent of the writing in 'Unlocking the Clubhouse' (Margolis and Fisher, 2002), a cornerstone of literature in this field. The idea of this 'locked clubhouse' for which women are restricted from entering is yet another example of 'gatekeeping', which Imafidon explores further in their third Chapter. Gaming is presented as a good example of this 'gatekeeping', with the inherent misogyny which is still ever-present within the gaming world is highlighted in this book. This is supported by recent emerging publications which empirically demonstrate the negative experiences often faced by women gamers (Buono *et al.*, 2020; Kelly *et al.*, 2023; Wohn, Ratan and Cherchiglia, 2020). Even 'technology' and being 'technical' are often gatekept terms (Margolis and Fisher, 2002), and Imafidon concludes this succinctly by stating that 'many women don't consider themselves "technical", but women are problem-solvers and technology is nothing more than a tool'. This could be argued to be true of any person, regardless of gender, but what Imafidon acutely acknowledges is that it is women who are often the hardest hit by the problems of society, e.g. 'from poverty to violence', and therefore using any tools overcome these problems may benefit women more.

Imafidon highlights the importance of visible role models as a route of inspiration for young girls to enter into the world of tech, sharing examples of experiences she had with her parents of going to museums about inventing, and having conversations about actively 'going against the grain', through to the example of Jenny Griffiths in Chapter 3. Griffiths emerged out of university as the CEO of her own fashion recognition application, and the technology developed out of this business could have potential applications in airport security, for example. Real-world examples of inventions made by women and their scale of impact are peppered throughout this book, with each one packing a punch. This reinforces Imafidon's passion for ensuring girls and women are not left out of the design and development processes, with existing research telling us that role models and their visibility are key to encouraging more women into STEM (Widdicks *et al.*, 2021). Importantly Imafidon acknowledges the importance of the 'pipeline', as well as the need for continuous support in the industry itself, quoting a conversation with Mar Hicks, 'on the other side, as a continuation there has to be a lot of other people pushing on the policy level for things like equal pay, and better treatment of workers of all genders'. This is supported by the research carried out by Holtzblatt and Marsden (2018), who interviewed women who had exited STEM to uncover their reasons for leaving the field and found that a lack of support was one of them. The author, therefore, highlights the importance of choosing to engage when shaping technology, stating that 'the full extent of taking CTRL involves getting active, creating, shaping and influencing technology.'

We have 'no option to opt out' of the evolution of technology, although Imafidon also acknowledges the technology gap, and that not everyone has access to technology. However, they then bring in an interesting conversation about education, and how each topic is currently taught seemingly independently from the other, highlighting the importance of STEAM rather than STEM. This is a consistent pedagogical conflict and is explored in previous work by Widdicks *et al.* (2021), which has shown the importance of including project themes for computing education, i.e., not coding for the sake of it, coding with a purpose, and how this is likely to engage more girls and women in computing.

Overall, this is a brilliantly informative and thoughtful book which does an excellent job of outlining several high-level problems faced by women in STEAM, particularly those in tech. Not only does it provide the reader with a real insight into the issues currently being faced in the field, Imafidon also includes a number of actionable steps for those interested in pursuing equity and representation across the fields. A must-read for anybody wishing to understand more about tech, or the societal issues currently faced by women.

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Citation: Ashcroft, A. (2024). [Review of the book *She’s in CTRL: How Women Can Take Back Tech*, by Anne-Marie Imafidon]. *Feminist Encounters: A Journal of Critical Studies in Culture and Politics*, 8(2), 43. <https://doi.org/10.20897/femenc/14955>

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