

In it to win it: the skills and knowledge product developers need to bring sports apparel to life
Meegan Feori-Payne, California State University San Marcos, USA
Bertha Jacobs, University of Pretoria, South Africa

Keywords: Product development, sports apparel, skills, knowledge

Background and Purpose. The sports apparel market is projected to grow to USD 271.77 billion by 2030 (Fortune Business Insights). Like fashion, sports apparel companies grow their business by offering consumers new products every season. Product developers are responsible for developing sports apparel products that have an appropriate level of quality to meet high levels of functionality (Claussen et al., 2022). In addition to developing performance products, emerging technologies, sustainability efforts, and inclusivity initiatives continue to impact the product development process (Parker-Strak et al., 2022). To add complexity to product developers' roles, they work in multi-functional teams that extend across the globalized supply chain (Kunz, 2010). Developing profitable sports apparel requires competent product developers with the right skills and knowledge to navigate this complex role effectively (Feori-Payne & McKinney, 2022). Despite the importance of competent sports apparel product developers, little is known about the specific skills and knowledge they need to work in a multi-functional role that requires them to generate new products every season (Feori-Payne & McKinney, 2022). Our analysis aimed to augment the understanding of the wide range of skills and knowledge required to be a sports apparel product developer.

Literature review. "Product development is an end-to-end process" that transforms a market opportunity into a profitable product (Keiser et al., 2022, p. 4). Developing products from conception to commercialization requires knowledge of creative and technical product design, consumer trends and demands, range planning, sourcing, production, and distribution (Parker-Strak et al., 2022). According to Leiby and Ha-Brookshire (2020), cross-functional roles also need collaboration, coordination, and integration skills to accomplish a shared task/project. Essential skills and knowledge for merchandising positions include technology proficiencies, professional experience, manufacturing, product development, flexibility, administrative/managerial, organizational, metacognition and critical thinking (Jacobs & Karpova, 2023).

Method. An interpretive, qualitative phenomenological approach was utilized. This approach provided access to sports apparel product developers' first-hand accounts of their daily responsibilities and how they apply particular skills and knowledge to complete them (Creswell, 2013). Semi-structured interviews were systematically completed with 13 participants recruited purposefully for their employment at a sports apparel firm, product developer position and possessing at least one year of work experience as a product developer. Predetermined open-ended questions and supporting probing questions helped to uncover the daily practices of sports apparel product developers. The recorded interviews ranged from one to two hours. After data saturation, the interviews were transcribed, and responses were collectively analyzed using Atlas.ti. Following Creswell's (2013) process for interpretive studies, the researchers organized the data through reading and memoing, describing and classifying the data into

codes and themes, and representing and visualizing the data. A coding guide with *a priori codes* based on the AMC framework (Jacobs & Karpova, 2019) was created and refined during three coding cycles.

Findings. Five overarching themes with various sub-themes emerged that align with the product developer's main responsibilities to bring the product to life: *cross-functional skills* (communication, diplomacy, teamwork, leadership), *intrapersonal skills* (administrative, organizational, flexibility), *technology and math skills* (information management, CAD, product lifecycle management (PLM) software, costing), *cognitive skills* (critical thinking, problem-solving, creativity), and *product and process-related knowledge* (textiles, manufacturing, assortment management, product development, sourcing). A selection of 'power quotes' (Pratt, 2009), exemplary examples, are beneficial to elucidate these sub-themes (Table 1).

Table 1

Overarching Themes and Participants' Quotes

Overarching themes	Participant quote
Cross-functional skills (communication, diplomacy, teamwork, leadership)	Yeah, so the role of a product developer is a lot of communicating. So communicating with the designer, communicating with the factory. (P1) So the triad works as a team. There's only going to be one designer, one developer, and one product manager. The three of us are going to work as a team to bring that product to life (P9)
Intrapersonal skills (administrative, detail-oriented, time-management, flexibility)	If you're a very detail-oriented person, you definitely are having to be responsible for checking every little detail that goes into what's being made. (P3) You got to be adaptable. Lot of things are going to get thrown your way and you're going to just have to be able to adapt to them. (P9)
Technology and math skills (information management, CAD, PLM software, costing)	It was really hard...[W]hat are the dates and gates for every single different timeline? (P12) I think that the costing is now definitely one of my primary responsibilities (P5)
Cognitive skills (critical thinking, problem-solving, creativity)	I keep coming around to problem-solving. There is some technical design involved. The whole thing is about solutions. (P6) [W]here you get that problem... and it's like, cool. I'm going to just need to marinate on this for a while. (P9)
Product and process-related knowledge (textiles, manufacturing, product development, sourcing).	So I would be providing all that work, like written construction information and putting together the tech pack along with the specs and all that to get that proto made for development. And then also, if they bought it, then make sure it's fitting and overseeing it all the way to the top of production. (P3) I'm still learning materials...I love materials. (P7)

Conclusions and Implications. The findings highlight the complex role of sports apparel product developers and the wide range of skills and knowledge they need to complete their daily responsibilities. During product development, sports apparel developers bring the product to life by fulfilling a central role. They work across different departments, teams, and functions. To take a product from ideation to a commercially viable product, they need cross-functional skills, be administrative, detail-oriented and flexible/adaptable, be technology and math proficient, able to solve problems and have sound knowledge of textiles, manufacturing and products. Future studies could focus on evaluating how curriculum addresses and fosters these skills within undergraduate programs. Corporate training needs could also be explored to align with academic programs and assist product developers to advance their careers. To increase the generalizability and build on the current study's findings, a survey could be conducted with additional sports apparel product developers.

References

- Claussen, L., Lloyd, A., Ruiz, D., & Havenith, G. (2022). Experts' views on sports clothing quality. *International Journal of Fashion Design, Technology and Education*, 15(1), 86-97.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage.
- Feori-Payne, M., & McKinney, E. (2022). Apparel product developers: An exploration through the lens of work analysis. *Journal of Global Fashion Marketing*, 13(3), 256-272.
- Fortune Business Insights. Market Research Report. 2023.
<https://www.fortunebusinessinsights.com/sports-apparel-market-107401>
- Jacobs, B. & Karpova, E. (2023). Must-have skills and knowledge for apparel merchandising professionals in South Africa. *Journal of Global Fashion Marketing*, 14(2), 206-225.
- Jacobs, B., & Karpova, E. (2019). What do merchandisers need to succeed?: development of an apparel merchandising competency framework. *International Journal of Fashion Design, Technology and Education*, 12(3), 272-282.
- Keiser, S., Vandermar, D. & Garner, M. B. (2022). *Beyond design: The synergy of apparel product development*. (5th ed). Fairchild Books, USA.
- Kunz, G. I. (2010). *Merchandising: Theory Principles, and Practice*. (3rd ed). Fairchild Books, USA.
- Leiby, N., & Ha-Brookshire, J. E. (2020, December). Cross-functional Skills: Defining Its Meaning. In *International Textile and Apparel Association Annual Conference Proceedings* (Vol. 77, No. 1). Iowa State University Digital Press.
- Parker-Strak, R., Boardman, R., Barnes, L., Doyle, S., & Studd, R. (2022). Product development, fashion buying and merchandising. *Textile Progress*, 54(4), 247-403.
- Pratt, M. G. (2009). From the editors: For the lack of a boilerplate: Tips on writing up (and reviewing) qualitative research. *Academy of management journal*, 52(5), 856-862.