

Exploring the Factors Influencing Purchase Intention of Three-Dimensional Knitted Shoes: A Conceptual Framework

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Introduction

Background:

- The emergence of 3D knitting technology has attracted much attention from retailers and manufacturers in the footwear industry. This can be attributed to its inherent properties of stretch and compression (West, 2019).
- Consumer preferences are rapidly shifting towards 3D knitted shoes, fueled by a growing environmental consciousness and a cultural shift towards athleticism and wellness (Davis, 2019).
- Despite this trend, little attention has been given with respect to consumers' intention to purchase 3D knitted shoes. It is imperative to build a conceptual framework for the driving variables that lead consumers to purchase 3D knitted shoes.

3D Knitting Technology:

3D Knitting is a seamless technology that eliminates cutting and sewing processes. (Mahbub et al., 2014).

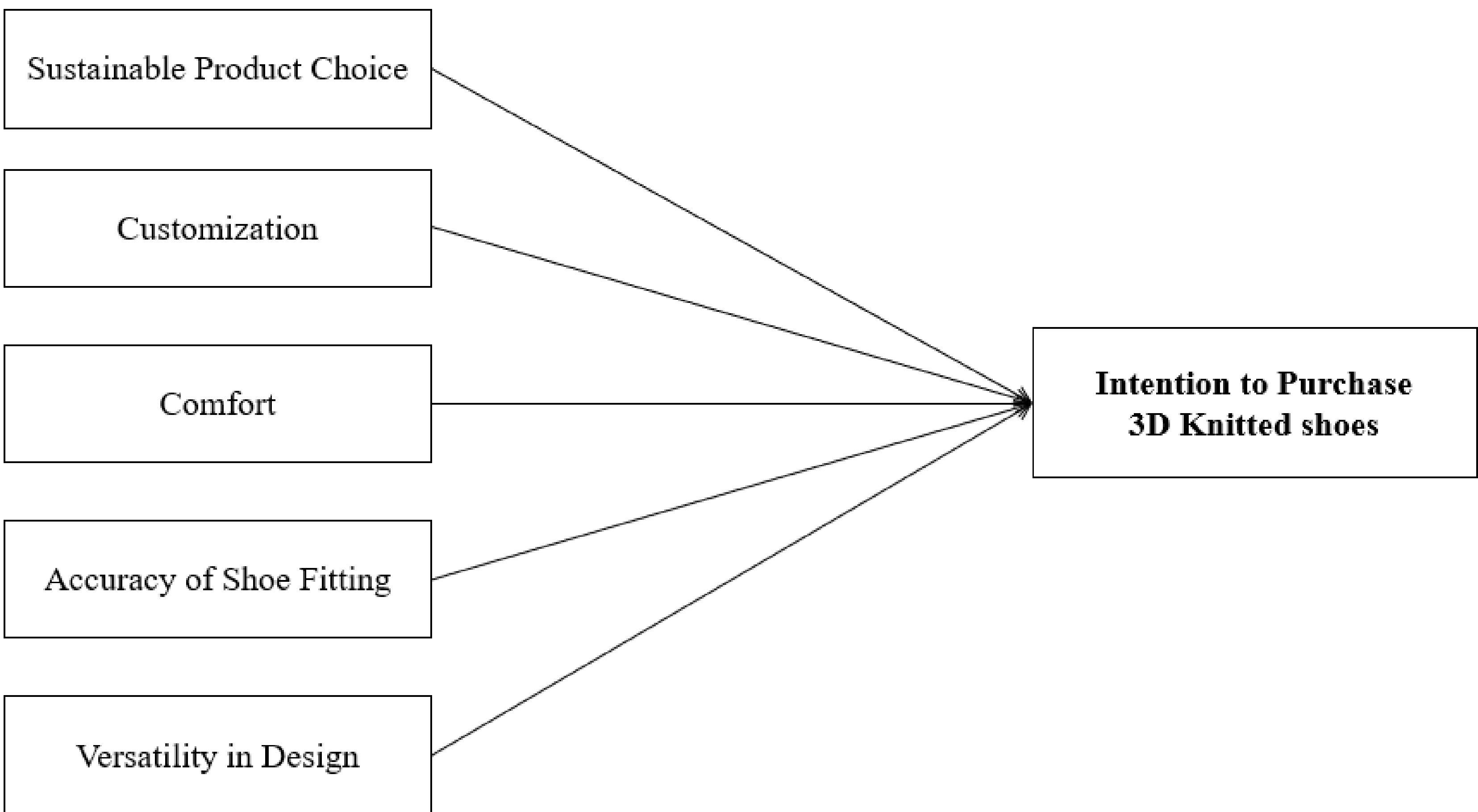
Research Goal

This article proposes to build a conceptual framework of critical factors that influence consumers intention to purchase 3D Knitted shoes.

Literature Review

- 3D Knitted shoes: Seamless knitting technological innovation that creates connected loops for 3D shoe upper (Duarte et al., 2020). 3D knitting technology (3DKT) holds the sustainable promise of production process.
- **Major advantages :**
 - 1) 3D knitting technology considerably reduces work time and labor-intensive process, with elimination of cutting, sewing, and heat-setting. It generates a completely seamless and ready-to-wear 3D shoe upper pieces with 60% reduction in waste (Davis, 2019).
 - 2) Decreases environmental pollution caused by sewage, exhaust, and contaminants.
 - 3) Opens door for streamlining concept-to-market time by local body scanning and digital knitting. Customized functional compression shoes can be created and this feature enables customers to order customized shoes and have them delivered within a few days (Davis, 2019).
 - 4) Offers a great comfort by elasticity, adjustment to the body, and allowing freedom of movement by providing superior air permeability, minimal absorption of moisture/water, improving the circulation.
- **Multiple applications:** Casual and fashion shoes to technical and sport shoes; personalized fitting; versatile design (Belleau et al., 2007).

Research Model and Propositions



- Proposition 1:** Choice of sustainable product will influence consumer intention to purchase 3D Knitted shoes.
Proposition 2: Customization of shoe design will influence consumer intention to purchase 3D Knitted shoes.
Proposition 3: Shoe comfort will influence consumer intention to purchase 3D Knitted shoes.
Proposition 4: Accuracy of shoe fitting will influence consumer intention to purchase 3D Knitted shoes.
Proposition 5: Versatility in shoe design will influence consumer intention to purchase 3D Knitted shoes.

Expected Implication

- With its promise of a more sustainable production process, shoes retailers should continue developing new 3d knitting materials and design, thereby empowering customers to engage in sustainable living and experience using personalized 3D knitted products.
- Customers can enjoy greater control over the design and production process, while also reducing the environmental impact.

Conclusion

- Despite ongoing advancements in seamless knitting, significant limitations persist. Achieving comprehensive product development and acceptance of such novel products remains a distant goal.
- 3D knitting provides an inherent versatility and flexibility in design and production.
- Adoption of 3D knitting technology in retail settings holds great promise for enhancing business growth and sustainability.

References

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- Davis, H. (2019). *Pai Lung: Why global brands are racing towards a comprehensive 3D knitting solution*. Knitting Trade Journal.