

## **Engaging Fans with Digital Tokens: the Role of Team Brand Identification and Co-creation Knowledge**

### **Abstract**

Digital engagement platforms, especially those involving fan tokens (a blockchain-based cryptocurrency), are reshaping consumer-brand relationships in the sports industry. This study uses Social Identity Theory (SIT) and customer engagement literature to examine how football fan token activities impact team brand identification and fan engagement. Findings reveal that fan token activities enhance team identification and engagement, while future use intentions hinge on the meanings fans associate with these activities. The study suggests sports teams should adopt a participatory brand structure to sustain fan involvement and leverage positive, non-transactional behaviors from engaged fans.

**Keywords:** fan token, fan token meanings, team brand identification, fan engagement, brand co-creation, cryptocurrencies

**Paper type:** Research paper

### **1. Introduction**

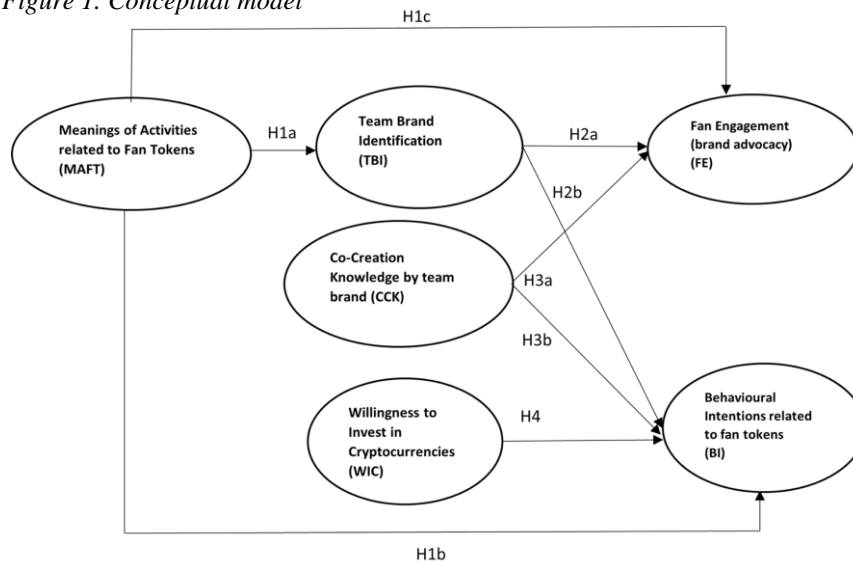
Metaverse-enabling technologies (such as AR, VR, blockchain, and NFTs) have introduced novel digital assets that enhance both real-world and virtual consumer experiences. Fan tokens, in particular, are digital assets that grant holders access to exclusive digital content and community-related activities within the sports and music industries (Centorrino et al., 2023; Manoli et al., 2024). As blockchain-based cryptocurrencies, fan tokens also represent a high-risk investment due to their significant value volatility (Demir et al., 2022).

Sports brands are increasingly leveraging these technologies to create unique fan interactions, ranging from virtual match broadcasts to exclusive digital experiences. Although fan tokens do not confer actual ownership, their use is aimed at diversifying revenue streams for sports brands and enhancing fan engagement (Manoli et al., 2024). Recent research on digital customer engagement indicates that such engagement can be fostered through activities that emphasize brand meaning, especially for consumers who are deeply connected to the brand (Dretsches et al., 2024). Brand meaning can generate abstract brand knowledge, which in turn drives brand advocacy beyond mere interest or excitement. This is particularly relevant for sports fans, where the dynamics of significant customer-brand relationships are pronounced. This paper aims to address this gap by investigating how these metaverse-enabling technologies are influencing brand co-creation mechanisms and fan engagement.

## 2. Conceptual background

By using Social Identity Theory (SIT) as a theoretical framework, we aim to shed light on the meanings associated with fan tokens' activities, the co-creation knowledge provided by team brands, team brand identification, and their combined impact in terms of customer social influence. SIT posits that individuals categorize themselves into social groups, forming a social identity that enhances self-esteem and positive biases toward group members (Tajfel, 1982) and helps us understand how fan tokens and their virtual/physical experiences influence fans' identity formation and behaviors. SIT has been used to understand how fans' identification with their favorite team impacts behavior (Yoshida et al., 2015). On these lines, fan tokens can serve as “access devices” that strengthen fans' personal and social identities by enabling participation in virtual fan communities (Chohan and Schmidt-Devlin, 2024).

Figure 1. Conceptual model



We argue that meanings associated with fan tokens' activities can affect team identification, which in turn significantly influences fan engagement and brand advocacy behaviors. These behaviors transcend pure market transactions, encompassing social interactions, word-of-mouth, community support, participation in marketing programs, and knowledge sharing. In addition, we explore the role of co-creation knowledge provided by brands on fan engagement. Recent research showed that co-creation knowledge (Van Doorn et al., 2010) provided by team brands positively influences digital engagement, leading to increased word-of-mouth and advocacy (Dretsch et al., 2024).

To understand how digital assets like fan tokens redefine consumer-brand relationships, it is essential to analyze the meanings associated with fan token activities, team brand

identification, co-creation knowledge, and their combined impact on fan engagement and behavioral intentions (see Figure 1). Additionally, some fan token holders may identify more as investors or gamblers rather than fans, influencing their purchasing behavior and advocacy.

While previous studies have examined these constructs individually, comprehensive research on their interrelationships and outcomes in terms of customer social influence remains limited.

### 3. Method

Our research focuses on football enthusiasts familiar with fan tokens and digital engagement platforms, regardless of their purchasing behavior. The primary population includes individuals aware of these technological advancements in football fandom. We target the younger demographic, supported by Deloitte's (2023) finding that Gen Z (75%) and Millennial (72%) sports supporters show high interest in fan engagement products like fan tokens. Specifically, we examine young Italian football fans due to Italy's prominence in football. As one of the "Big Five" leagues in Europe, Serie A is notable for its high engagement with fan tokens. Seven Italian clubs and the national team have issued fan tokens, making Italy a significant market for these digital assets. As for sampling, we recruited 558 university students from four geographically diverse Italian universities over six months (October 2023 - March 2024). University students are an appropriate sample due to their digital competence and relevance as a target group for digital fan engagement products. Data collection was anonymous, with no access to personal identifiers. Out of 558 responses, 242 were excluded due to lack of knowledge about fan tokens or incomplete responses, resulting in a final sample of 316 participants (69.8% male, median age 25), achieving a valid response rate of 56.6%. This sample size meets the criteria for structural equation modeling.

The survey instrument was developed using established scales from the sports marketing and general marketing literature (e.g., Apostolopoulou and Papadimitriou, 2018; Itani et al., 2021).

### 4. Results

All analyses were conducted using the Lavaan package in R with the Maximum Likelihood estimator applied to the covariance matrix among the observed variables. To identify the latent variables, we first developed the measurement model through confirmatory factor analysis (CFA). The internal consistency of measures (CR) is satisfactory, with omega levels ranging between .796 and .918. Discriminant validity is adequate based on the Fornell-Larcker criterion.

The structural model presented in Figure 1 fits the data well: Comparative Fit Index (CFI) = .928, Tucker-Lewis Index (TLI) = .919, and root mean square of approximation (RMSEA) = .059. To summarize, MAFT positively affects team-brand identification (TBI) (H1a supported;  $\gamma = .385$ ;  $z = 6.431$ ;  $p < .001$ ), behavioral intention (H1b supported;  $\gamma = .271$ ;  $z = 2.757$ ;  $p = .006$ ), and fan engagement (H1c supported;  $\gamma = .163$ ;  $z = 2.076$ ;  $p = .038$ ). TBI significantly positively impacts fan engagement (H2a

supported;  $\beta = .545$ ;  $z = 9.958$ ;  $p < .001$ ), but its influence on behavioral intention is negative and not statistically significant (H2b not supported). Similarly, co-creation knowledge by the team brand positively influences fan engagement (H3a supported;  $\beta = .200$ ;  $z = 2.651$ ;  $p = .008$ ), but its effect on behavioral intention is not significant (H3b not supported). Finally, the positive effect of willingness to invest on behavioral intention is also not statistically significant (H4 not supported).

## 5. Discussion, implications and conclusions

The study highlights how fan tokens influence football team brand identification and fan engagement. Meanings associated with fan tokens' activities - such as pride, socialization, aesthetics, etc. - enhance fans' identification with their team (H1a supported) and directly affect behavioral intentions (H1b supported). Supporters who find tokens meaningful are more active in behaviors related to possessing or recommending them, like licensed merchandise (Apostolopoulou and Papadimitriou, 2018). However, team brand identification does not mediate the relationship between MAFT and behavioral intentions (H2b not supported). Co-creation knowledge by the team brand does not significantly impact behavioral intentions regarding fan tokens (H3b unsupported). Similarly, willingness to invest in cryptocurrency does not influence intentions to adopt or recommend fan tokens (H4 not supported). Fan tokens are often not seen as valuable financial instruments due to their downside risk (Demir et al., 2022). Thus, behavioral intentions related to fan tokens are mainly driven by their positive meanings. Fan engagement is positively influenced by team brand identification (H2a supported) and co-creation knowledge (H3b supported). Fans are more likely to advocate for their team when they identify strongly with it or know about the team's co-creation efforts. This aligns with studies showing that brand identification impacts advocacy (Stockburger-Sauer et al., 2012) and that co-creation knowledge drives advocacy (Dretsch et al., 2024). Meaningful fan tokens also enhance overall brand advocacy (H1c supported), as special privileges and activities create significant meanings for fans, fostering stronger engagement and advocacy behaviors.

A key theoretical implication is that team identification does not lead to behavioral intentions regarding fan tokens. This suggests that highly identified fans may not view digital assets like traditional merchandise, indicating different consumer-brand relationships for digital assets. This indicates that SIT may not apply to digital fan engagement through blockchain-based assets. The study also highlights the significance of meanings associated with fan token activities, which play a crucial role in building team brand identification, creating fan engagement behaviors, and leading to behavioral intentions related to fan tokens. The study finds that while co-creation knowledge by the team brand does not impact behavioral intentions towards digital assets, it enhances brand advocacy, thus suggesting managers should focus on developing a participatory brand structure to improve interactive marketing. Lastly, the lack of a connection between team brand identification and behavioral intentions towards fan tokens suggests that sport management professionals should emphasize the creation of meaningful activities related to fan tokens to strengthen fan engagement and related behaviors, ultimately leading to increased revenue.

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