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From Space Missions to Screen: Analyzing Virtual Product Placement in the NASA-Star Trek Collaboration

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Abstract

The rapidly advancing technology has led to the evolution of traditional product placement into Virtual Product Placing (VPP), a technique that use software to digitally include images of specific products or brands into media output, like as movies or television shows, during the post-production phase. While such virtual technology offers significant benefits to marketers, broadcasters, and production businesses in terms of consumer targeting, its implementation is not devoid of legal, marketing, and ethical concerns. This paper examines the relationship between the 2013 film *Star Trek: Into Darkness* and the National Aeronautics and Space Administration (NASA) and its vision through a case study methodology in the film and media industry. Within its narrative, the film emphasizes NASA's image by implementing a specific form of virtual product placement. Furthermore, examined in this paper are the consequences and implications of virtual product placement in ethical, legal, and marketing domains, as well as potential avenues for the advancement and incorporation of this strategy. Through the use of a qualitative approach including in-depth analysis of the movie material, this work generates more comprehensive insights. The use of virtual product placement in films such as *Star Trek: Into Darkness* demonstrates how the advanced incorporation of brand and CGI technology further complicates the intersection between product placement and the film production process.

Keywords: virtual product placements, consumer markets, *Star Trek*, NASA, infringement, brand, product copyright, fake endorsement, brand development.

1. Introduction

In response to the growing fragmentation of the consumer market, advertisers have shifted their focus the past decade towards a diverse range of communication channels in order to effectively target a broader customer base globally. In recent years, product placement has emerged as a very effective and extensively adopted strategy. A product placement strategy is the deliberate and strategic inclusion of branded products into television or movie programming with the intention of influencing viewers through sponsored product messages and promotions. Product placement messages are distinguishable from other forms of marketing communications as they are classified as embedded advertising and are integrated into media content (McDonnell, Drennan, 2010). The reason for this is that product placement messages employ a type of persuasion that is less forceful and more understated compared to other advertising (Meenaghan, 2001).

Product placement has evolved significantly from the conventional concept, which involved physically placing products in films and television programs, to virtual product placement

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(hereinafter VPP). In VPP, computational software enables the digital integration of product or brand imagery during the post-production stage (McDonnell, Drennan, 2010). This shift not only enhances the variety of items that may be integrated into content, but it also broadens the reach and efficacy of advertising efforts. Thus, broadcasters can more efficiently manage and acquire control over advertising revenue by utilizing Virtual Product Placement (VPP), an advertising strategy. A studio records the broadcast and adds product placements to it. After licensing the show, sponsors buy placements and use post-production techniques to digitally inject advertising content. Not only that, but virtual product placement enables for the tailoring of advertising to reach different locations, reflecting demographic variances across release versions (McDonnell, Drennan, 2010).

Examining its historical background, product placement has existed prior to the widespread use of the name VPP in the contemporary day. As an illustration, the initial documented instance of product placement occurred in the renowned silent film *Wings* (1927), which also received the prestigious Academy Award for Best Picture. This film gained recognition for its pioneering production methods and visual effects at that era. Consistent with the title, the film showcases several authentic aircraft, including some that were produced by aviation businesses operating during that time period. Naturally, this granted the aircraft manufacturers featured in the film, such as Curtiss Aircraft and Thomas-Morse, with immediate visibility and increased marketing opportunities. Equally, in the commercially successful film *E.T. the Extra-Terrestrial* (1982), an American science fiction picture created and directed by Steven Spielberg. In addition to providing financial support for the film, the product placement in "E.T." established a favorable connection between the brand and the movie. Reese's Pieces, the chocolate confectionery brand, had significant advantages from its prominent presence in the film, resulting in a substantial increase in its sales following the cinematic release (Bergren, 2022). It may be asserted that the notion of deliberately positioning products within media content, as opposed to as independent ads, was undoubtedly created in the past and will continue to be refined in the future (Balasubramanian, 1994).

As other scholars highlight a primary obstacle of conventional product placement is the difficulty in quantifying the efficacy of physical placement in a specific film, which typically necessitates thorough examination of audience reaction over a period of time. This intricacy is heightened by the fact that companies that enjoy popularity in the United States may not exert the same level of influence in other worldwide markets, resulting in disparities in marketing effectiveness on an international scale (McDonnell, Drennan, 2010). Within this particular framework, Virtual Product Placement (VPP) arises as a more flexible and effective alternative. Vertical Purchasing Platform (VPP) allows for immediate personalization and modification of brands to cater to the requirements of various markets, addressing the issue of global mismatch, and offering enhanced benefits in terms of brand exposure and cost-effectiveness in diverse international locations. Virtual brand protection (VPP) ensures the continuous maintenance of the brand image worldwide, therefore maximizing marketing effectiveness and expanding the global audience reach.

Virtual product placement (VPP) outperforms conventional product placement not just because of its cost-effectiveness and capacity to target more specific market segments, but also because of its superior creative freedom. Through the use of technology that allows for the digital integration of products or brands into post-production, Virtual Product Platforms (VPPs) offer the capability to customize marketing messages with greater accuracy by considering geographic, demographic, and consumer behavioral factors. Specifically, VPP enables companies to modify the advertisements or items displayed based on current market trends or local tastes, without the need for any physical alterations to the movie. However, Virtual Publications do not fully supplant other forms of publicity or commercial initiatives. The effectiveness of virtual product placement is enhanced when it is integrated into a comprehensive and all-encompassing marketing approach. This method should incorporate a blend of diverse advertising and publicity strategies to comprehensively engage the audience and optimize the overall effectiveness of the marketing campaign. In essence, whereas Virtual Personalities provide robust capabilities for personalization and precise targeting, the achievement of complete marketing success ultimately relies on the incorporation of VPPs with other conventional and digital marketing tactics.

This cinematic technique was employed in the film *Star Trek: Into Darkness* (2013). VPP was used in this film to effectively highlight brand and institutional aspects, particularly in relation

to the National Aeronautics and Space Administration (NASA) image, in a highly integrated manner within the storyline. The utilization of VPP technology enables NASA to depict its presence in the film with greater adaptability and dynamism, as opposed to the more fixed conventional method of product placement. The film incorporates NASA through a range of visual elements, such as logos, interior designs, and facilities, which effectively convey the distinctive features of the agency. In addition to bolstering the credibility of the film, this also delivered a substantial marketing advantage for the businesses engaged.

As a new topic in the realm of technology and research, the objective of this paper is to examine various aspects of Virtual Product Placement (VPP), including an overview of the practice, efficient methods for its application in different contexts, and efforts to address common challenges and misunderstandings encountered. This research will undertake a case study on the film *Star Trek: Into Darkness* (2013) to examine the ideal use of Value for Money (VPP) in different scenarios. It will explore methods to enhance effectiveness and efficiency in attaining marketing goals. The objective is to enhance comprehension of VPP, thereby enabling brands, broadcasters, and production studios to strategically and creatively employ this approach, particularly within the film industry. The primary objective is to assist stakeholders in recognizing opportunities and overcoming obstacles in the implementation of Visible Product Placement (VPP), therefore enabling them to optimize marketing potential and obtain substantial advantages from incorporating products into media content.

This research aimed to address some fundamental points regarding the use of Virtual Product Placement (VPP) in films and television programs. These inquiries primarily center around:

Q1: How can Virtual Product Placement be implemented in movies or television shows without violating existing physical advertising or copyright terms?

Q2: How can Virtual Product Placement be done without creating false claims of support or false implications on the part of the actors involved?

Q3: How can the implementation of Virtual Product Placement be done without affecting the script of the show or creating confusion for viewers about whether they are being tricked by the product images shown?

This research will provide case studies of successful and distinctive brand relationships within the film industry, focusing on content that resonates closely with the public, in order to address these questions. The analysis will investigate the viable and ethical implementation of VPP in modern media creation, as well as how this approach might address different obstacles while preserving the artistic integrity and financial worth of the work. The objective of this approach is to offer a comprehensive understanding of the implementation of VPP, guaranteeing that the method is not only groundbreaking but also adheres to relevant ethical and legal norms.

2. Materials and methods

This research employs a qualitative methodology to examine Virtual Product Placement (VPP) in films, with a fundamental emphasis on *Star Trek: Into Darkness* (2013) as a specific case study. The primary data utilized comprises the film itself and pertinent secondary data sources, such as scholarly articles, periodicals, and promotional materials. The analysis involved a thorough examination of the film content to identify and assess the implementation of brand positioning (VPP), including the integration of brand aspects, namely the National Aeronautics and Space Administration (NASA), in the film's plot and graphics. The selected case study in this research is anticipated to offer an elaborate explanatory account of a phenomena (Barnes et al., 1994). The objective of this study is to investigate the use of VPP in enhancing marketing flexibility and effectiveness within the movie industry.

Furthermore, conducting a contextual analysis of marketing documents and other publications offers further understanding of the influence of VPPs on brand image and marketing strategy. The research intends to give a thorough analysis of the application of Viral Promotional Products (VPPs) in movies and to enhance comprehension of the obstacles and opportunities presented by this marketing strategy in the film business (Iversen, 1991).

3. Discussion

The comprehension of product placement in the media sector is of utmost importance given the intricate nature of media, particularly in light of the development of audio-visual media since the 20th century, which differs from the interconnection facilitated by the internet (Roudometof,

2023). In the contemporary world, media is not only perceived as a medium for personal expression but is intricately linked to advertising (Kim, Chan-Olmsted, 2022). In addition, media has the ability to generate its own collection of services (Gould, Gupta, 2006). According to few scholars product placement refers to the intentional and purposeful integration of a brand into media material in order to gain brand visibility and enhance brand recognition among the audience (Reijmersdal et al., 2009). Virtual Product Placement (VPP) is a more nuanced method of linking consumer products with celebrities, films, or other media elements, which has evolved from traditional product placement (Hey, 2000). Digital Product Placement (VPP) is a form of virtual advertising in which computer-generated graphical components, including brand names, items, and animations, are integrated into television programs or films, either in real-time or via pre-recorded footage, according to (Reichman, Moreland, 2006). Its application in the transmission of English Premier League matches is a prominent example of VPP (Sosnovskikh, 2006). The VPP system is employed to exhibit brand adverts on digital billboards positioned adjacent to the field. The digital alterations have the capability to cater to both local and international advertising, thereby obviating the necessity of replacing traditional billboards within the stadium. The implementation of this approach not only improves the whole spectator experience within the stadium by reducing any visual disturbances, but also generates supplementary income for broadcasters.

Furthermore, this encompasses the proliferation of digital advertising on different media platforms propelled by algorithmic technology and user data, and the potential influence of these capabilities on the interplay of platforms, marketers, and consumers (Burgess et al., 2024). Moreover, another research evaluates that the strategic positioning of products in advertising material, usually achieving a more realistic appearance in digital media content, results in favorable impressions among viewers (Li, Ma, 2024). Indeed, these advertising skills have the potential to influence and control customer behavior (Grigsby, Skiba, 2024).

Virtual Product Placement (VPP) differs from conventional product placement by emphasizing its capacity to facilitate the digital incorporation of brands into a film or television program, once the filming phase has concluded (Hey, 2000). Furthermore, this benefit not only decreases the expenses associated with product placement, but also provides significantly more adaptability in tailoring the material to the intended brand. Video advertising platforms provide marketers with the ability to make real-time modifications to their advertisements based on several criteria, including shifts in market trends, audience preferences, or regional requirements, without the need for any physical alterations to the production process. Nevertheless, it is crucial to bear in mind that the primary goal of VPPs is not to enhance direct sales exclusively through extravagant advertising, but rather to shape audience awareness and perception in a more understated and cohesive manner. Through digital integration, Virtual Product Placements (VPPs) can provide a powerful naturalization effect, creating the perception that the product is inherently linked to the narrative or ambiance established in the film or show (Karrh, Pardun, 2003).

Ultimately, although virtual advertising may not entirely supplant the function of conventional advertising in mainstream media, it continues to be a significant source of income for the broadcast industry in the present day. The notion of virtual advertising slot enables producers and studios to provide advertising space for sale on various media channels with a significant level of adaptability. As an illustration, a corporation has the option to sell advertising space for a television series during its initial broadcast, and thereafter provide various advertising slots for subsequent versions that are broadcasted at a later time. As a consequence, the advertisements that viewers see differ based on the platform they use to access the material. For instance, individuals who buy a DVD of a film may encounter distinct virtual advertisements in contrast to those who watch the same film in a live cinema. Hence, virtual advertisements not only offer supplementary income for broadcasters and content creators, but also facilitate the personalization of advertisements based on various consumption formats and experiences. This exemplifies the ongoing adaptation of the entertainment business to shifts in consumer behavior and technology, by utilizing advancements in content monetization to optimize revenue and enhance overall audience involvement (Chena, Haley, 2014).

The expanding revenue flexibility provided by Virtual Product Placement (VPP) has produced a rising interest among marketers and academics in the several marketing aspects of this technology. VPP, as a component of a novel advertising approach, is seen as a message-delivery agent specifically created to shape audience opinions about the promoted product (Zhou et al.,

2024). Nevertheless, the current body of research suggests that the progress made in virtual technology introduces novel obstacles that are not faced with traditional methods of product placement. These challenges encompass legal and regulatory matters that are currently insufficiently prepared to tackle these advancements. At now, the study on how to tackle the legal, marketing and ethical challenges developing from virtual technology is still in its nascent phase. Nevertheless, these concerns have been expressed with clarity and precision (Almond, 2007; Reichman, Moreland, 2006).

Few scholars discuss the legal dimensions that emerge from the violation of advertising rights when a network permits the integration of virtual advertisements above pre-existing physical advertisements (Reichman, Moreland, 2006). In such instances, the depreciation of the capital investment is not limited to the corporation responsible for paying for the physical advertisements, but also extends to the entity that possesses and trades the physical advertising space. For instance, in 2002, OTS Signs, a company that oversees and markets billboard space, filed a lawsuit against Sony Corporation and other parties, accusing them of engaging in deceptive trade practices, infringing upon advertising rights, and engaging in unfair competition at both the federal and state levels. The lawsuit emerged subsequent to the digital substitution of Samsung's advertisements with advertisements for USA Today, consequently replacing Samsung's initially expansive billboards with virtual advertisements for Cingular Wireless. This case highlights the legal ambiguity, especially in New York, regarding the classification of such activities as trespass in the absence of direct physical harm to property. The incident exposed deficiencies in the control of virtual advertising and ignited a progressively heated discussion on the efficacy of Virtual Product Platforms (VPPs) (Li, Ma, 2023).

A further unresolved issue is copyright infringement. In general, copyright infringement refers to the act of reproducing, distributing, publishing, or transforming a copyrighted work without the explicit authorization of the copyright owner. Scholars observe that within the realm of virtual advertising, the original content being aired, such as a film or television program, needs to be altered in order to display the new advertised material. Should these modifications be implemented without the explicit consent of the copyright holder, individuals who possess the rights to the material may potentially lodge copyright claims. However, copyright law is designed to protect creative works and ensure that creators benefit from their creations (Freund, 2016).

Historically, television shows and movies have employed traditional product placement as a means to enhance brand recognition among customers and for the performers participating in the productions (Almond, 2007). Yet, Virtual Product Placement (VPP) is typically implemented in the post-production stage, sometimes going unnoticed by both viewers and actors. Consequently, performers may find themselves endorsing things that were not previously featured in the scene, or replacing products obtained from other companies. This may potentially result in lawsuits from performers who believe that the usage of VPPs violates their rights to publicity. Nevertheless, the researcher clarifies that performers in the United States lack sufficient protection of their moral rights. This is because, as per the Copyright Act, the ownership of the copyright for an actor's performance lies with the television studio rather than with the actor themselves (Almond, 2007).

The implementation of new advertising strategies by television networks and the film industry has prompted worries regarding the influence of Virtual Product Placement (VPPs) on screenplay content. Screenwriters and directors may feel obligated to create narratives that enable the incorporation of Value-Proposition-Products (VPPs), or dismiss concepts that are challenging to synchronize with marketing measures. Nevertheless, this strategy carries the potential of being rejected by audiences and so leading to adverse consequences. As an illustration, authors reference the film *Fantastic Four*, which faced criticism for its too noticeable product placement. Critics expressed concerns that an abundance of product placement may divert viewers from the principal narrative of the film, therefore disturbing the overall viewing experience (Gutnik et al., 2007; Ong, 1995).

An additional debated element concerning Virtual Product Placement (VPPs) is the ethical question of whether this technique can be considered deceptive. The urgency of this issue can be compared to the spread of conspiracy advertising and news on social media, which is widespread and concerning to the public (Mahl et al., 2021). VPP exploits the audience's perception that the broadcast accurately represents the filmed reality, unless special effects are used. However, the use of VPP involves visual modifications not intended to enhance the narrative, but for commercial purposes (Brown, 2016). The need to regulate various aspects of VPP arises from differing perspectives on this approach across different sectors within the media industry. Existing research on the legality and

validity of VPP marketing fails to offer adequate solutions to the identified issues.

4. Results

The present study investigates the extent to which the film *Star Trek: Into Darkness* (2013) establishes a substantial association between its image and NASA and its vision. The research is grounded on the assumption that the moments in the film indirectly strengthen the image and credibility of NASA. An analysis of the relationship between *Star Trek: Into Darkness* (2013) and NASA influences the overall influence of Virtual Product Placement (VPP) in the film. This analysis aims to evaluate the impact of virtual product placements on the audience's opinion of the brand or institution showcased on media. Furthermore, this study will investigate strategic methods of utilizing Virtual Reality Platforms (VRPs) to strengthen the reputation of a brand or institution by developing compelling tales and immersive visuals inside the framework of a science fiction story. This analysis will examine how VRPs function not just as a marketing instrument, but also as a crucial component that can enhance audience involvement with movie content, therefore establishing a stronger bond between the brand and the audience.

This paper aims to provide a theoretical overview of the conceptual gaps in Virtual Product Placement (VPP) and then address the misconceptions and issues that may emerge during its implementation. Within the framework of the suggested case study, there exist some crucial elements that require additional elucidation in order to get fully thorough comprehension.

To begin with, it is crucial to grasp the fundamental concept of Virtual Product Placement (VPP), which is a strategy that links consumer goods with celebrities, films, or other media components (Hey, 2000). Virtual product placement (VPP) in the realm of movies enables advertisers to digitally include products or brands into finished movie sequences by utilizing computer graphics technology to introduce or substitute objects inside the current scenes. Hence, it is important to bear in mind that the fundamental notion of VPP, as implemented in the *Star Trek* films and its correlation with NASA, is a broad implementation of this approach. This definition elucidates that the comprehension of VRPs can frequently be deceptive, as VRPs are in fact a distinct and more coherent manifestation of advertising. Nevertheless, from a particular standpoint, VRPs can be regarded as a component of a broader marketing strategy, which is a novel approach to advertising items by digitally integrating them into movies or TV shows after the production phase has concluded (McDonnell, Drennan, 2010).

Furthermore, the film *Star Trek: Into Darkness* serves as a highly significant case study example for analysis. It provides profound insights into the aforementioned elements and presents distinctive and intriguing implications that warrant further exploration. This film is a pertinent study primarily because the extensive advertising conducted for NASA offers a comprehensive framework for comprehending the successful implementation of Value Propositioning in an actual institutional marketing setting, using the medium of a science fiction film.

The symbiotic tie between the worldwide film industry and NASA's future envision of space flight has been robust since 1976. The visibility of this relationship became evident when NASA strategically used advertising campaigns that included the whole *Star Trek* ensemble, including prominent individuals like Leonard Nimoy. A pivotal event occurred when NASA bestowed the name Enterprise upon its inaugural space shuttle, directly inspired by the fictitious starship featured in the *Star Trek* series. The initial designation of the shuttle was Galileo, but it was subsequently altered in reaction to a fan campaign, therefore illustrating the notable correlation between science fiction and the actual work of NASA. The Galileo spaceship, which was originally employed in the development of the *Star Trek* series in 1966, came to represent the partnership. Furthermore, the Galileo exhibit situated at NASA's visitor center, Johnson Space Center, highlights the intimate connection and collaboration between the imaginary realm and NASA, therefore featuring NASA's tangible contribution to the inspiration of the science fiction shown in the movie.

Nevertheless, it is crucial to comprehend the foundation of the partnership behind this collaboration. Fundamental to this partnership is the shared vision between *Star Trek* and NASA. According to the National Research Council, this vision commitment emphasizes the education and motivation of future generations to accomplish shared objectives in space exploration (National Research Council, 2007). Fundamentally, both parties have a profound dedication to the pursuit of space exploration and addressing humanitarian concerns. While *Star Trek* and NASA are situated in distinct domains, one in the realm of science fiction and the other in legitimate exploration, they

both have a shared objective of broadening the limits of knowledge and investigating the potentialities in outer space as well as reflections on the political values and ideals of the United States through the depiction of leaders' actions in film (Weldes, 1999).

The alignment of goals between *Star Trek* and NASA elevates their partnership beyond mere advertising; it demonstrates a mutual dedication to advancing human development in the realm of space. The film *Star Trek: Into Darkness* (2013) clearly portrays this aspiration, with exploration and the pursuit of human knowledge being key elements of the narrative. The film not only embodies the principles supported by *Star Trek*, but also corresponds with NASA's objective and aspiration in the realm of space exploration and technological advancement. The association between NASA and a movie or TV episode has inherent risks, given NASA's renowned scientific foundation and *Star Trek's* classification as science fiction. However, the outcomes of such connections are frequently somewhat unexpected. NASA has undertaken a multitude of scientific investigations, which are well documented on their official website. This study encompasses science fiction technologies from the *Star Trek* series, including communicators, shipboard computers, antimatter, androids, tricorders, artificial gravity, and warp engines, which are demonstrated to be faithfully portrayed in the film (Uri, 2019).

Nevertheless, NASA also detected certain scientific inaccuracies in the film. They categorized it as a writer's quirk as none of the writers have a scientific expertise. The participation of NASA in the testing and verification of science fiction technology ultimately bolsters the movie's legitimacy among viewers and fans, even those lacking a technical foundation. In this instance, the involvement of NASA serves to strengthen trust in the precision and dependability of the screenplay, rather than giving rise to apprehensions regarding adverse influence. Furthermore, the inclusion of NASA in *Star Trek* has the potential to generate heightened curiosity and comprehension of science among the general population.

In his 2009 publication, David Allan Batchelor from NASA Goddard Space Flight Center elucidates that *Star Trek* transcends mere amusement; it is a masterpiece that combines a remarkable imagination with a robust scientific basis. Within the narrative, science not only functions as a background, but is meticulously upheld as an homage to the most remarkable accomplishments of mankind. The rigorous manufacturing method prioritizes scientific precision and astute storytelling, establishing it as one of the most reliable and esteemed science fiction masterpieces globally. The assertion made by Batchelor demonstrates that the association between *Star Trek* and NASA transcends mere cooperation, as it embodies a mutual vision and aspiration for the future of mankind in outer space. The *Star Trek* series, renowned for its intricate depictions of space exploration, frequently incorporates aspects that draw inspiration from NASA findings and hypotheses. These encompass cutting-edge technology, the notion of interstellar exploration, and a more comprehensive perspective on human existence in the cosmos. The participation of NASA in *Star Trek* initiatives not only enhances the scientific storylines in the films, but also injects a profound sense of genuineness into the franchise's portrayal of the future.

In order to ensure that the concepts shown in *Star Trek* accurately represent contemporary understanding of space and technology, NASA scientists and engineers offer regular feedback and counsel to the *Star Trek* producers. Through its ability to connect science fiction with contemporary scientific understanding, *Star Trek* presents a hopeful perspective on the future of technology and exploration. The concepts of warp propulsion, teleportation, and interplanetary communication serve as both plot aspects in the story and sources of discussion and conjecture regarding potential futures in the real world. As such, *Star Trek* functions as a catalyst for broadening comprehension and admiration of scientific inquiry, while also motivating future generations to seek innovation and fresh information. In addition to providing pleasure, *Star Trek* serves as a vehicle for educating viewers about the possibilities and difficulties of space exploration, and fostering an appreciation for the scientific efforts required to achieve these aspirations.

Therefore, the active involvement and endorsement of *Star Trek* by NASA not only contribute to the consolidation of the brand connection between the two entities, but also augment the attractiveness of the movie to the viewers. Both those with a profound scientific knowledge and those who is solely intrigued by the science fiction element of the narrative acknowledge NASA's role in the production process of *Star Trek*. Such enhances trust in both the scientific excellence and the technological aspects portrayed in the films. Concrete instances of how *Star Trek* incorporates concepts still in the research or speculative stage by NASA into its story include warp drive, teleportation, and distant star exploration technologies.

It is evident that the partnership between *Star Trek* and NASA is reciprocally beneficial. *Star Trek* acquires scientific and technological credibility by virtue of NASA's participation, while NASA leverages this widely recognized platform to communicate their objectives and accomplishments to the general populace. By using this collaboration, both sides may generate a more significant influence on advancing space exploration and the progress of cutting-edge technology. *Star Trek* serves as a prime illustration of how science fiction cannot only provide amusement, but also motivate and enlighten, so establishing itself as one of the most potent mediums for fostering scientific inquiry and human creativity.

Furthermore, there exists a noteworthy similarity between the NASA brand and the film helmed by J.J. Abrams. While the NASA emblem is not explicitly seen in the movie, the longstanding association between the two organizations enables the viewer to readily recognize the technology in the movie as goods inspired by NASA. This is because viewers tend to actively interpret the brands, they encounter in films in accordance with the brand identities they experience in the real world (Delorme, Reid, 2013). An additional aspect to take into account is the choice to refrain from visibly showcasing the NASA emblem in the film, which could be related to creative or legal deliberations. Through the deliberate omission of the logo, the movie producers might circumvent possible legal complications associated with the unauthorized use of the brand or violation of copyright principles as per relevant laws. Nevertheless, a robust brand identity maintains a distinct correlation between the NASA brand and the components in the film, thereby enabling viewers who are acquainted with the prominent space corporation to still identify the link.

Another piece of evidence is the choice made by the Aerospace Industries Association (AIA) to exhibit a 30-second preview of their prospective concept of space exploration in cinemas situated in the United States. This footage was extracted from a three-minute film that was initially made available by NASA in 2012. The primary objective of this decision was to enhance the correlation between NASA and space exploration, a crucial aspect presented in the film. While not explicitly included in the movie's storyline, this video is often regarded as a crucial component of the audience's experience, especially in the United States. The stated objective is explicitly characterized as a mission for humanity, emphasizing the principles linked to space exploration and the crucial contribution of NASA in attaining them. Through the inclusion of this content, AIA seeks to establish a correlation between these concepts and the film being shown, thus enhancing public consciousness regarding NASA's involvement in space exploration on a wider scale. It is crucial to emphasize that the utilization of this material does not violate copyright, as it is derived from publicly published videos by NASA. Therefore, there is no modification or unauthorized utilization of the copyrighted work in this particular situation, guaranteeing the legal soundness of the exhibition of the video in cinemas.

Within the realm of branding and brand association, AIA's decision to use this video can be interpreted as a continuation of the preexisting connection between NASA, space exploration, and films such as *Star Trek*. While the NASA logo is absent from the trailer, the presentation of this promotional material in US theaters serves to strengthen the visual and narrative connections between the NASA brand and the subject of space exploration explored in the film. This demonstrates an astute approach of utilizing the brand's pre-existing connections with NASA to strengthen the message it intends to communicate to movie viewers. Through the implementation of legal measures to ensure the lawful and compliant use of the material, the action also prevents possible legal complications associated with the unlawful exploitation of protected works.

Finally, the film *Star Trek: Into Darkness* incorporates science fiction technology and warp effects that explicitly allude to NASA's dreams of the future, delving into fundamental ideas that surpass the limits of existing physics understanding. According to NASA, their research indicates that the stellar warp effect, as commonly portrayed in science fiction, remains far beyond the capability of present technology. Nevertheless, NASA persists in supporting further exploration and study to achieve this aspiration, notwithstanding the immense scientific uncertainties.

Given its methodology, *Star Trek* merits recognition as a classic that not only provides captivating visual pleasure, but also communicates a profound message about scientific inquiry and human imagination, so captivating its viewers (Fedorov, 2023). From its beginning, the series has emphasized space exploration as a fundamental aspect of its narrative, encouraging viewers to envision technological possibilities before unimaginable. *Star Trek*, by offering a positive outlook on human life in an expansive cosmos, not only presents thrilling narratives but also offers an opportunity to contemplate the philosophical and ethical consequences of deep space exploration. Undoubtedly,

the *Star Trek* television series and movies effectively established a robust connection between science fiction and scientific fact, enhanced by the most up-to-date information and study on space.

Cinema plays a crucial function in conceptualizing and elaborating on ideas that are still in the research phase or simply exist in the realm of wishful thinking. Although the warp effect may not meet the criteria of realism according to current scientific procedures, its portrayal in movies can be seen as an artistic representation of humanity's desires and ambitions to investigate deeper regions of the cosmos. The incorporation of digital effects in the creation of this image also introduces a contemporary technical aspect that enhances the science fiction experience. Although not yet a feasible product, these effects offer the audience a chance to envision the potential future possibilities that may be amenable to future scientific investigation and development. The integration of the *Star Trek* brand with NASA is reinforced by the inclusion of concepts like the warp effect in the film, which enhances the visual and narrative connections between the science fiction themes depicted and NASA's ambitions and goals in space exploration. Although the warp effect is considered implausible according to current scientific criteria, the portrayal is nevertheless remarkable and stimulates creative contemplation on the potential of future technology and space exploration.

In general, the film portrays a storyline that merges the imaginative elements of science fiction with genuine scientific ambitions fueled by NASA research. Viewers are encouraged to envision possible possibilities in space exploration through the visuals showcased in the film, while recognizing that the realization of aspirations like the warp effect still necessitates additional research and invention.

5. Conclusion

While Virtual Product Placement (VPP) is included into movies, its inherent way of modifying the product itself poses growing challenges in defining it across various situations. The use of a VPP in a movie not only establishes a connection between the product and the persona, but also incorporates the movie and the product itself. This renders the intricacy more nuanced and dependent on the circumstance. In certain instances, the outcomes can exhibit such a wide range of variations that it becomes challenging to precisely establish the VPP itself. The film *Star Trek: Into Darkness* serves as a compelling illustration of its intricacy. For instance, specific effects may exclusively manifest as part of theater screenings, but may not be included in the DVD release or TV broadcast. Consequently, virtual or supplementary adverts can only be accessed by those who are physically present in the theater and not by audience members who are not watching the movie.

Conceptually, the film is a result of CGI (Computer Generated Imagery) technology, which adds complexity to the editing process by merging live action footage with computer-generated effects. Consequently, it is challenging to delineate VPP as an independent component of the film production. The relationship between technology and visual effects in science fiction is inherently intertwined with the usage of computer-generated imagery (CGI). The probability of creating a science fiction picture without computer-generated imagery (CGI) is now quite rare. Therefore, it is crucial to take into account the influence of CGI itself while analyzing the existence of visual phenomena in films.

As an exception to the usual rule, VPPs are present in *Star Trek: Into Darkness*. Although the utilization of VPPs can give birth to certain problems, the enduring partnership between *Star Trek* and NASA mitigates the intricacy. The brand identity of NASA has been so intricately intertwined with the idea of *Star Trek* that it no longer needs any visible emblem for recognition. Hence, notwithstanding the presence of a reverse product placement or a 30-second extra advertisement, the film maintains its inherent qualities. Additional concerns, such as the violation of copyright, fraudulent endorsements, and motion picture scripts, can also be tackled within this framework.

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