



Media moments: how media events and business incentives drive twitter engagement within the small business community

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Abstract

Twitter is one of the most popular social networking platforms today with nearly 238 million active daily users. While the platform is used by a myriad of individuals for various purposes, businesses both large and small have begun to adopt Twitter into their business strategy to better connect with consumers. Considering the growing emphasis on social media engagement in the business sector, the present study examines some of the fastest-growing American small businesses from the perspective of media events theory. According to media events theory, certain large-scale events will attract excess viewership and attention from the public, both on traditional and digital platforms. We examine how small businesses leveraged media events of 2020, including COVID-19 and the 2020 US presidential election, so as to increase engagement and foster the growth of their businesses via Twitter. Using 35000 tweets based on media event-related hashtags collected throughout 2020, we investigated Twitter engagement among 100 of the fastest-growing small businesses in the USA. Through the use of network analysis metrics, we illustrate that businesses that tweeted about media events often received greater levels of user engagement and exerted greater influence over their respective networks.

Keywords Network analysis · Media events · Engagement · Social networking

1 Introduction

Twitter, known for its short 280-character tweets, has become a fertile environment for trending hashtags, sensational headlines, and fledgling social movements (Bennett and Segerberg 2011; Rosenbaum and Bouvier 2020). Presently, Twitter is one of the largest social media networks in the world, with 237.8 million active daily users as of late 2022 (Reimann 2022). Among the leading social media platforms, Twitter has garnered considerable scholarly attention due to its popularity, size, and accessibility for researchers. Although much of the existing literature focuses on how individual users leverage the platform (Williams et al 2013), there is a notable gap in both theory and practice regarding how businesses can leverage the platform to maximize engagement, foster brand awareness, and build a consumer base. Furthermore, studies within the existing literature pertaining to how businesses utilize Twitter focus primarily on larger, international brands, such as Disney or McDonald's, as opposed to small businesses (Curran et al. 2011; Cripps et al. 2020). Relatively little is known about small

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businesses' patterns and daily practices using Twitter and social media in general.

We contend that the Twitter accounts run by small businesses can be distinguished through two perspectives. Firstly, these accounts share content in an effort to promote their business, advertise their brands, or sell their products—functions we categorize as business-centric activities. Second, these accounts share content when engaging with media events, such as championing social causes, “live tweeting” events as they happen, or otherwise commenting on major current events. The present study endeavors to understand the daily behavior of small businesses on Twitter and examines how media events can affect these online practices, thereby determining the interaction networks of small businesses on Twitter. Through this, we utilize novel research methodologies to elucidate how small businesses utilize social media to leverage their online presence and better connect with potential customers.

Given the goals of the present study, we root our work within Dayan and Katz's (1992) theory of media events. The framework offered by media events theory demonstrates a clear understanding of the benefits of fostering social media engagement of users on social media platforms such as Twitter (Smith and Gallicano 2015). While the existing literature illustrates how large, transnational conglomerates and mega-corporations have successfully utilized media events to foster their online presence (Lin et al. 2014), small businesses have the same opportunity to use these events to garner attention and brand awareness. With this in mind, the present study compares the nuances between individual, business-centric and event-driven social media engagement by assessing how and why users interact with each other on which topics, and how these interactions result in overall engagement with a brand, whereas the existing literature primarily conceptualizes user engagement as an individual's personal, intrinsic connection with a platform (Li et al. 2013), and this study differs as we will utilize engagement as a metric to quantify how media events impact and how Twitter users engage with online content issued by small businesses. Furthermore, considering the existing literature surrounding the notion of media storms (Boydston et al. 2014), it stands to reason those periods of intense media coverage can transcend into instances marked by high levels of social media engagement.

From the Arab Spring revolutions to the #BlackLivesMatter protests that captivated the attention of millions worldwide—individuals are increasingly turning to social media to share their thoughts about these significant moments. Considering the tenets offered in the existing literature about media events theory in addition to that of media storms, the present study seeks to address the ways in which small businesses can capitalize on massive media events to leverage their social media presence. Through this, we seek to better understand how small businesses utilize Twitter to make

recommendations to aid these industries. Finally, through the use of social network analysis (SNA), the present study seeks to utilize a novel methodological approach to understanding how small businesses interact—and leverage their presence—on social media.

2 Literature review

2.1 Small businesses on twitter

As noted in the existing research (Bulearca and Bulearca 2010; Humphreys and Wilken 2015), Twitter can be a valuable tool for businesses, especially those that would find ways to learn how consumers perceive their products. As a great venue for businesses to interact and communicate with their customers, business owners can use Twitter to gauge how the public feels about their products, business practices, and more. Further, businesses can utilize Twitter to adjust their internal strategies based on their goals and by using the feedback and information provided by the platform's users. By establishing contact with potential target markets, the business can gain insight into their needs, wants, and behaviors (Culnan et al. 2010). Twitter provides businesses with opportunities to reach out to consumers and understand their thoughts, illustrating the platform's usefulness for small businesses.

Despite the demonstrated advantages that Twitter provides small businesses, there remains a noticeable gap within the literature regarding how these organizations optimize their presence on the platform. Much of the existing literature focuses exclusively on how large, transnational conglomerates and mega-corporations capitalize on media events to foster their online presence (Lin et al. 2014). However, with nearly 31 million small businesses accounting for nearly 60 million jobs as of 2019 in the USA (U.S. Small Business Administration 2019), we argue that small businesses represent an under-studied case study in the relationship between media events and social media engagement. The present study aims to understand how these small businesses leverage event-driven activities to optimize their presence on Twitter.

While there is a myriad of conceptualizations used to define what constitutes a small business in contemporary corporate America, we offer the following parameters through which we identified the small businesses that comprise our sample. For the present study, we are particularly interested in organizations that are US-based, privately held, for-profit, and independent (meaning they are not subsidiaries or divisions of another parent company), with a minimum revenue of \$100,000 (PRNewswire 2021). Given the general lack of knowledge about small business activities on Twitter (Lin et al. 2014), we offer the following set of research

questions in an effort to understand the characteristics of the interaction networks of the fastest-growing American small businesses:

RQ1a: Do American small businesses form collaboration networks through their interactions on Twitter?

RQ1b: What are the characteristics of the Twitter interaction network among American small businesses?

2.2 Small businesses on twitter and media events theory

To date, ample research has been dedicated to understanding how major media moments compel and demand audience attention (Al Nashmi 2017; Lin et al. 2014). Perhaps one of the most seminal theoretical frameworks in this area is media events theory, which has been applied to a myriad of contexts in an effort to illustrate how media moments captivate the attention of audiences and spur engagement. Originally offered in the 1990s, the seminal framework sought to address how ceremonial media spectacles interrupt people's daily routines with preplanned and scripted media content. However, since its original conceptualization, the theory has been applied to analyze the impact of significant, headline-worthy events on the behavior of large enterprises and global business entities. Furthermore, while Dayan and Katz (1992) focused on the influence of media events on television coverage, the framework has since been expanded to include new and digital media, including Twitter (Jungherr 2014; Katz and Liebes 2007). The societal shift to digital media has afforded audiences greater opportunities to engage with global and local media events. To this end, media events highlighted on Twitter have been found to draw excess attention compared to other events, such as the Black Lives Matter protests in Ferguson, Missouri (Jackson and Foucault Welles 2016). Existing research shows that these events have been leveraged by large businesses to generate media exposure (Lin et al. 2014; Jungherr 2014).

As defined by Dayan and Katz (1992), a media event is a phenomenon unique to the communication industry, as it attracts the public's attention away from their daily routine by emphasizing something of social relevance (Jackson and Foucault Welles 2016; Jungherr 2014; Sumiala et al. 2016). The traditional conceptualization of a "media event" required eight elements in order to be characterized under their typology: (1) be broadcast live by television, (2) constitute an interruption of everyday life and everyday broadcasting, (3) be preplanned and scripted, and (4) be viewed by a large audience. There should also be (5) a normative expectation that viewing was obligatory and (6) a reverent, awe-filled narration, and the event had to be (7) integrative of society and (8) primarily conciliatory (Sonnevend 2017). Thus, the original authors presented three basic

characterizations that media events could be categorized as contests (for example, the World Cup, the Olympic Games, or presidential debates), conquests (such as the moon landing or the Pope's visit to the USA), and coronations (such as President Kennedy's funeral, the coronation of Elizabeth II, and the various royal weddings that have taken place over the last few years) (Sonnevend 2017). To summarize, these events were characteristically mesmerizing and spectacular, capturing audiences' attention across the globe.

Considering this, a core concept of media events theory focuses on the nature of the community setting and the inherent communal element of the events themselves. As demonstrated throughout the existing literature, media events invite participation from both spectators and community members. As postulated in the existing literature, they draw interested viewers or community members when media events occur, sparking conversations among individuals and fostering a collective conversation. One avenue where this can mainly be observed is on social media, as networking platforms offer a space for individuals to disseminate information through social interactions with other individuals, groups, and organizations (Botha and Mills 2012). Further, online platforms offer several affordances that help to foster these interactions. For example, the use of hashtags helps catalog conversations and interactions in an archival fashion, conveniently locating similar content in one space. This ultimately assists users in decreasing their time spent searching for information. In summary, the communal aspect of media events has provided users and businesses on Twitter with shared public forums that encourage the free flow of information and connections.

These collaborative platforms are spaces where businesses should theoretically circulate their content freely and connect with potential consumers. This presents a valuable opportunity for small businesses looking to grow their presence on social media and foster brand loyalty among consumers. As demonstrated throughout the existing literature, the theoretical foundation provided by media events theory demonstrates that media events have proven to be helpful in generating content exposure for large businesses on Twitter in the same fashion that has been successful for traditional television-based media events (Sumiala et al. 2016). It stands to reason that, with their behavior mimicking that of large businesses in other ways on Twitter, small businesses would benefit from media events-related practices in the same way that larger businesses do (Lin et al. 2014; Jungherr 2014).

In today's economy, small businesses often need to utilize social media to connect with potential consumers, enhance their brand awareness, and captivate the public's attention in today's saturated media market. Initially, this attention was captivated through traditional formats such as broadcast television; however, throughout the last decade, social media has become a vital tool in attracting audience attention (Al

Nashmi 2017; Lin et al. 2014). Dayan and Katz (1992) demonstrated that media events attract exceptional levels of attention to shared spaces, such as a collaborative internet platform like Twitter. If a small business participates in these shared spaces surrounding a media event, it can leverage its attention to bring greater awareness to its brand (Dayan and Katz 1992; Lin et al. 2014). With the goal of increased awareness and the function of media events to increase participation and thus awareness, the features afforded by Twitter provide small businesses with the ability to connect with users, who may then serve as potential customers.

At present, much of the existing literature focuses on how large corporations utilize social media as a portion of their marketing strategy (Lin et al. 2014), effectively ignoring how small businesses can also benefit from these new digital platforms. Based on the existing literature on the impact of media events on small businesses (Roig et al. 2017; Sumiala et al. 2016), the present study seeks to analyze the role of media events in how small businesses position themselves on Twitter. Like traditional media formats such as network television (Dayan and Katz 1992), the existing literature indicates that media events have generated audience attention on social media platforms such as Twitter (Jungherr 2014; Lin et al. 2014). Furthermore, research indicates that small businesses stand to benefit from media events, as these events are often coupled with increased audience participation, resulting in greater levels of engagement (Roig et al. 2017).

With a substantial online presence surrounding a media event (Jackson and Foucault Welles 2016), there is ample opportunity for a small business to engage and draw attention from users to their brand from events that the brand is engaging, if not their product, platform, or service. Suppose small businesses are not using the opportunity of media events to their advantage. In that case, it seems clear that they are missing out on an opportunity for growth that comes at little to no cost to take advantage of (Cripps et al. 2020; Curran et al. 2011). Posts issued by small businesses concerning media events can draw additional attention compared to regular (non-event) social media posts due to the “must-see” nature of media events. Considering the significant media events of the last decade—Arab Spring, #MeToo, #BlackLivesMatter, Occupy Wall Street—millions of individuals worldwide continuously turned to social media for updates and connected with others. Social media, and these media events, help connect individuals throughout the world and create a dialog that would be impossible without digital media.

Furthermore, individuals often mimic observed behaviors to conform to social platforms, such as participating in online conversations surrounding these major media events (Wang et al. 2012). One such example could be observed in June 2020, when countless Instagram users took to the

platform to post images of black squares in protest of police brutality. This online protest occurred as a result of the murder of George Floyd and the ensuing Black Lives Matter protests in 2020 (Heilweil 2020). This combination of eyeball-drawing factors increases the exposure of small business’ media posts when made concerning media events. In summary, we posit that small businesses, like individual Twitter users, can also take advantage of these events and leverage their brands by connecting with potential consumers.

2.3 Media storms

Another critical element that merits discussion here is that of media storms. In traditional media environments, audience attention oscillates in reaction to newsworthy events that occur on a daily basis. As articulated in their seminal article, Boydston and colleagues (2014) refer to these oscillations as media storms. These storms refer to sudden surges in news coverage surrounding a particular event that ultimately leads to a sustained period of great audience attention (Boydston et al. 2014). To date, media storms have been studied in a myriad of different contexts and are often referred to as various other idioms, such as media “hypes” or “waves” (Boydston et al. 2014) or “news flashpoints” (Waisbord and Russell 2020). Given the existing literature pertaining to how audience attention coalesces around major events, we contend that there is major theoretical overlap to be found in the contexts of media storms and Dayan and Katz’s (1992) original framework of media events theory.

To date, scholars have focused almost exclusively on how attention cascades and coalesces in line with political events (Walgrave et al. 2017). For example, analyzing data capturing US media attention and congressional hearings spanning from 1996 to 2006, Walgrave et al. (2017) found that the presence of media storms often conditions the effects of media attention on congressional attention. These sudden, large bursts of media attention often direct the public agenda as they captivate large swaths of the audience. As a result, Walgrave et al. (2017) argue that a one-story increase in media attention can have a more significant effect on congressional attention as media storms often surpass a crucial threshold for catching the attention of policymakers—demonstrating the vast impact that media storms can have on public salience and issue importance. These findings are also reinforced through Boydston et al. (2014) work, which not only shows that media storms can impact audiences’ awareness of specific issues and events, but also their perceptions of the world around them. Similarly, Waisbord and Russell (2020) describe their concept of news flashpoints, which refer to bursts of news attention that are unique to the networked news environment, in which various forces vie to influence public discourse. These flashpoints are brief and

sudden periods where interest in specific topics rises and falls rapidly across multiple news outlets.

2.4 Theoretical contribution and research hypotheses

Describing how audience attention shifts and coalesces in reaction to major media events, the present study seeks to address the theoretical linkages that exist within the seminal frameworks offered by Dayan and Katz's (1992) seminal theory of media events and the newer, burgeoning work on media storms (Boydston et al. 2014; Waisbord and Russell 2020). One key difference that merits mention between these two frameworks is that media storms refer to a surge of attention from *traditional* media sources in much of the existing literature. In contrast, the present study seeks to expand upon this existing work and address how social media engagement and attention changes in reaction to these events. We posit that as major events occur—such as presidential elections, national protest movements or global events like the Olympics—a media storm is generated, thus garnering the attention of the public and motivating Twitter users to participate in the broader conversation.

However, while existing work focuses on how individuals engage with these media events, we contend that they also offer unique opportunities for businesses and organizations to engage in a meaningful way and optimize their social media presence. Rather than sudden attention from *traditional* media sources, we argue that media events spur increased public attention, resulting in increased levels of social media engagement. Here is where we see the potential for small businesses, as these organizations should capitalize on these events and participate in these conversations the same way individuals can. This provides a free, effective way to increase the visibility of small businesses that may otherwise struggle to optimize their social media presence and reach potential consumers. Considering the structure of media storms, we argue that small businesses should engage in storm-like behavior in the same way traditional media formats do in order to connect with potential consumers and further leverage their social media presence.

Considering the existing literature, we contend that a potential theoretical extension of media events theory and media storms is the potential distinction between individual-centered and event-driven activities. This discrepancy reflects how individuals, such as small businesses in our specific case study, react to unprecedented events while maintaining their daily activities. The media events theory suggests that individuals have no agency in maintaining their everyday routines as the entire network produces narratives relative to a single topic or event. However, small business owners simultaneously balance their engagement with these events with the facilitation of their business goals—such

as sharing information about new products and upcoming promotions. This observation enables us to examine both individual-centric activities and engagement that maintain these organizations' business-natured daily routines and event-driven activities and engagement that are interrupted by media events or media storms. With this goal in mind, we offer the following hypotheses to understand the relationship between media events and Twitter engagement:

H1 For small businesses on Twitter, business-centric engagement will be positively related to event-driven engagement.

H2 Small businesses with higher levels of business-centric engagement on Twitter are more likely to be in central positions on the interaction network formed through tweet activity.

H3 Small businesses with higher levels of event-driven engagement on Twitter are more likely to be in central positions on the interaction network formed through tweet activity.

H4 The relationship between business-centric engagement and the degree of network centrality among small businesses on Twitter can be enhanced if small businesses also show higher levels of event-driven engagement.

H5 The hashtag networks of small businesses' business-related tweets formed through (a) user-generated content, (b) sharing content/retweets, and (c) replies are positively correlated with the hashtag networks of small businesses' media events-related tweets formed through the same kinds of tweeting activities.

3 Method

3.1 Data collection

The present study utilizes a content analysis to ascertain how small businesses capitalize upon media events to build brand awareness. Thus, the unit of analysis for the present study is an individual tweet issued by a small business. To collect data, we utilized a simple random sample approach to select the businesses that would comprise our dataset. We randomly selected 100 small businesses from a list of the 5000 fastest-growing US-based small businesses as published by INC Magazine. To reiterate, the organizations on this list must be US-based, privately held, for-profit, and independent (meaning they are not subsidiaries or divisions of another parent company), with a minimum revenue of \$100,000 (PRNewswire 2021). To merit inclusion in our

sample, the business must also (1) have a Twitter account and (2) have tweeted on said account during 2020. The data compiled using INC.com included various attributes, such as industry, year founded, and company size. To obtain the most comprehensive perspective of how small businesses interact with media events on Twitter, we collected all tweets issued by the 100 small businesses from January 1, 2020, to December 31, 2020. The data collection yielded a total corpus of 35,177 tweets. In order to achieve a subsample for data analysis, 3704 of the tweets were randomly selected to code to surpass the 10% threshold for representativeness.

3.2 Coding procedure

The coding process was completed by two researchers. Each tweet was hand-coded according to a codebook identifying the media events as concerned in this study. Coders were tasked with identifying the types of tweets issued by each organization in the sample and categorizing whether they facilitated business-oriented content or media event-related content. We were specifically interested in four major global media events that we believe generated considerable media attention, resulting in what the existing literature describes as a media storm (Boydston et al. 2014). These events were the COVID-19 pandemic, the 2020 US presidential election, the Black Lives Matter protests, and the 2021 (previously 2020) Olympics. Tweets that did not mention a media event but instead focused on some aspect of business strategy (e.g., branding, advertising, and promotions) were coded as such. Three rounds of intercoder reliability were conducted, yielding a final percent agreement of 99.5 and Krippendorff's alpha of 0.99.

3.3 Measurements

Twitter affords three separate measurements to gauge interaction with individual tweets. Each tweet can be liked and will display a total number of times it has been liked. Tweets can also be replied to, allowing for a direct response to an individual post. Lastly, there is the option to retweet, wherein a user will repost another user's tweet, furthering its reach. These three features are built into the platform and allow for a quick and easy measure of engagement. Additionally, with these three features requiring user input, they provide direct, definitive proof of engagement.

More specifically, our study analyzes two specific forms of social media engagement. The first, business-centric engagement, is measured by the number of tweets posted about any business, such as promotions, sales, black Friday events, new product launches, and more. For example, if Twitter account A, which represents a small business, posts three tweets or retweets about any business affairs, the business-centric engagement is three. The second form

of engagement we analyzed is event-driven engagement. Like business-centric engagement on Twitter, the event-driven engagement is measured by the number of tweets posted about any media events, including Black Life Matters (BLM), COVID-19, Olympics in Tokyo, and the 2020 US Presidential Election. Each mention or tweet about a media event counts as an instance of event-driven engagement, which is added together to form the total event-driven engagement of each small business.

3.4 Network analysis

As discussed in the existing literature, analyzing the structure of a social network often lends great insight into the interactions and relationships that connect users while simultaneously revealing patterns of behavior (Kumar Behara et al. 2019). An activity-based interaction network emerges from all the tweets made by the selected small businesses and their associated Twitter users, including quotes, retweets, replies, and mentions. This network consisted of 10902 nodes—representing various Twitter accounts—and 11390 edges—representing interactions among these accounts. Based on the interaction networks on Twitter, this study adopted the in-degree centrality concept from social network analysis to measure the relative positions of small businesses on Twitter's interaction network. Degree centrality metrics count the number of interactions or connections a Twitter user has with other Twitter users. Given that Twitter networks are directed (e.g., account A may mention account B, but account B may not mention account A), this study uses in-degree centrality to measure the number of connections or interactions others have initiated with a given Twitter account. For instance, if small business A was mentioned five times by other Twitter users in the above-formed interaction network, A's in-degree centrality metric would be five. The higher the in-degree centrality, the more central the Twitter user account is (Kumar Behara et al. 2019).

To better understand how small businesses on Twitter engage with (1) individual-centric business topics and (2) media events-related topics, this study also computes the hashtag networks based on the number of tweets each pair of hashtags appears. If two hashtags #BLM and #COVID appeared in ten tweets simultaneously, an edge with a weight of ten was created between the two hashtags. A total of 780 hashtags were retrieved from all tweets in our sample. In addition, we created three different hashtag networks using the same strategy based on the type of tweeting activity among Twitter accounts, namely (a) self-posting user-generated content, (b) sharing content/retweeting, and (c) replies. Depending on how all small businesses and Twitter users interact, the level of interaction varies for each type of hashtag network.

4 Results

4.1 An overview of small businesses on twitter

We first ran descriptive statistics to gain a comprehensive overview regarding the industries of the small businesses in our sample. The accounts in the sample date back to 2008, with seven accounts, created that year. The youngest of the accounts were created in 2020, with six accounts created within the last year. The businesses span twelve different industries, the most prevalent being technology and computers ($n=37$). The least represented industries were automotive, education, and home and garden, each of which only had a single business. Thirty-four businesses were classified as “other,” with industries such as marketing and recruiting making up some of those in that category. Seventy-six accounts were national small businesses. These businesses served clients across the USA. Of the remaining twenty-four, nine were international businesses, and fifteen were categorized as local businesses in only a few selected cities or small regions throughout the USA.

Businesses were also categorized by having a traditional industry model, where they have physical business locations or products. Each business was coded as either a traditional industry, an online/digital business, or both. Of one hundred businesses in the sample, fifty-four were categorized as “traditional industry,” thirty as “online/digital businesses,” and the final sixteen were “both.” Lastly, each Twitter account was categorized as either a verified account or not. At the time of data collection, Twitter verification was assigned by the platform to indicate the authenticity of an account.

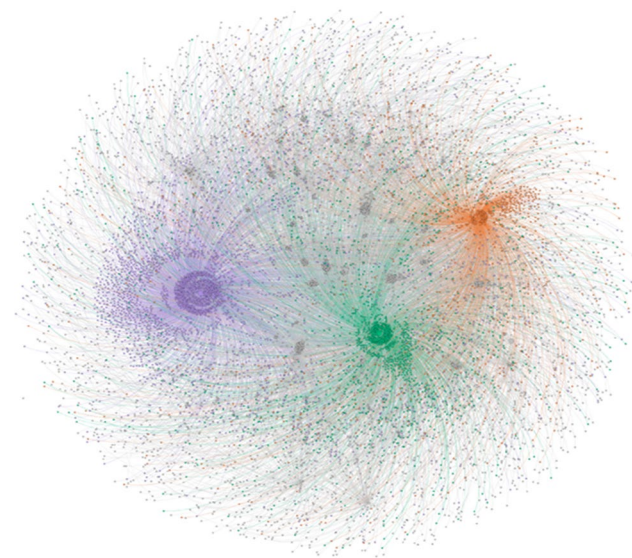


Fig. 1 Network visualization based on the small businesses and their tweeting activities

In order to be verified, an account must have represented or somehow been associated with a prominently recognized individual or brand that has received significant media attention (Twitter [n.d.](#)). The Twitter verification process has since changed following Elon Musk’s acquisition of Twitter in late 2022 (Bowman and Dillon 2022). Of the accounts in the study’s sample, only five were verified by Twitter.

4.2 Social network of small businesses on twitter

Broadly, RQ1 sought to analyze the network of small businesses on Twitter, specifically focusing on how the network was structured. A network analysis was also conducted to visualize the interactions among the small businesses in the sample (Fig. 1) to address RQ1a and RQ1b. In the network presented in Fig. 1, each node represents an individual Twitter account, including the small businesses within our sample and those with whom they have interacted on Twitter. Although sparsely connected, the network indicates that American small businesses have interacted among themselves and formed collaboration networks on Twitter (RQ1a). Specifically, the total number of nodes was 10,902, representing 10,902 accounts, with 11,390 corresponding edges. Within this context, an edge represents an interaction between Twitter user accounts. A descriptive network analysis was conducted to examine the characteristics of the Twitter interaction network among American small businesses (RQ1b). The average degree was 1.045, with an average weighted degree of 5.838. The modularity (Resolution = 1) was 0.84, representing 164 communities. Fig 1 highlights the three largest communities. Highlighted in purple, we can observe accounts and interactions that focus on media events and business affairs (30.29%). Green represents interactions focused solely on business affairs (20.78%). Finally, orange represented interactions that were exclusive to media events (15.48%).

Table 1 Predicting the network centrality of small businesses on twitter

IV: Social media engagement	DV: In-degree centrality (β)
<i>Main effects</i>	
Business-centric engagement	0.21***
Event-driven engagement	0.38***
<i>Adjusted R square</i>	0.18***
<i>Moderation effect</i>	
Business-centric engagement * Event-driven Engagement	0.10**
<i>Total Adjusted R square</i>	0.19***

Standardized regression coefficients were reported
 *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

In the 3704 tweets analyzed, 115 mentioned one of the four media events specified in the codebook (3.1%). We offered a set of hypotheses to analyze the relationship between media events and Twitter engagement with these small businesses. H1 asserted that business-centric engagement would be positively related to event-driven engagement. A Pearson product-moment correlation coefficient was computed to address H1 to assess the relationship between business-centric engagement and event-driven engagement. There was a weak, positive correlation between the two variables, $r=0.15$ ($p<0.01$), supporting H1.

In addition, we conducted a series of regression analyses to examine the effects of two types of social media engagement on users' in-degree centrality within small businesses' Twitter networks (H2–H4). Table 1 presents the standardized regression coefficients using social media engagement to predict the network centrality of the small businesses within our sample. The first regression model uses two types of social media engagement of small businesses (business-centric and event-driven) as independent variables. The dependent variable is in-degree centrality (node-level centrality measuring how central a small business is located) in the activity-based interaction network. Both independent variables show positive correlations to small businesses' in-degree centrality, meaning that the more involved the small business is with business-centric activities and media event-related activities on Twitter, the more centrally it is located and ranked. Accordingly, event-driven social media engagement ($\beta=0.38$, $p<0.001$) will lead to greater increases in small businesses' centrality in networks as opposed to business-centric engagement ($\beta=0.21$, $p<0.001$). The two independent variables manage to explain 18% variance in small businesses' network centrality, lending evidence to H2, H3, and H4.

As well as the independent variables from the first regression model, the second regression model adds an additional independent variable: the interaction term created based on the two types of social media engagement (two independent variables serving as main effects). Results show that the interaction effect is significant, which indicates that event-driven social media engagement has a stronger impact on network centrality when the level of business-centric engagement is high (see Table 1). It stands to reason that the increase in network centrality score due to business-centric social media engagement will be amplified among small businesses with a high score for event-driven social media engagement, lending support for H2.

4.3 Hashtag networks from twitter discussions

A hashtag network of 780 hashtags was created to address H5. To further analyze this hypothesis, we also conducted a Multiple Regression Quadratic Assignment Procedure

Table 2 Predicting hashtag networks formed through event-related tweets

#Hashtag networks	IV (Business-related tweets)	<i>B</i>	β	Adjusted R^2
<i>Event-related tweets</i>				
Model 1—Self-post	Self-post	0.001	0.01	0.08*
	Reply	0.03	0.07	
	Retweet	0.04	0.07	
Model 2—Reply	Self-post	0.002**	0.17**	0.19***
	Reply	0.12	0.01	
	Retweet	0.46***	1.25***	
Model 3—Retweet	Self-post	0.003***	0.26***	0.39***
	Reply	−0.08	−0.01	
	Retweet	0.52***	1.28***	

MRQAP Multiple regression quadratic assignment procedure

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

(MRQAP), the results of which are available in Table 2. MRQAP extends the quadratic assignment procedure (QAP) with the double semi-partialing permutation method (Dekker et al. 2007). This form of statistical analysis can assess the unique effect of one independent matrix on the dependent matrix by partialling out the effects of other predictor variables. Thus, this technique randomizes the residuals from the regression on each predictor, or fixed effect, to obtain the p value.

Each hashtag network consisted of 780 rows and 780 columns. As shown in model 1, none of the three types of business-related hashtag networks (i.e., self-post, reply, and retweet) was significantly correlated with the event-related hashtag network of self-post content, suggesting that small businesses' own opinions about media events on Twitter were not affected by their business incentives. In model 2, the event-related hashtag network of replies was significantly and positively predicted by the business-related hashtag network of self-post tweets ($\beta=0.17$, $p<0.01$) and the hashtag network of retweets ($\beta=1.25$, $p<0.001$). Similarly, the event-related hashtag network of retweets shared the same patterns as the hashtag network of replies (see model 3 in Table 2), significantly affected by the business-related hashtag network of self-post tweets ($\beta=0.26$, $p<0.01$) and the hashtag network of retweets ($\beta=1.28$, $p<0.001$). Both model 2 and model 3 suggest robust statistical explanatory power in predicting the dependent variables (Adjusted R -square = 0.19 and 0.39, respectively, $p<0.001$). Our results indicate that H5a is not supported, whereas both H5b and H5c are.

5 Discussion

For the last decade, the role of social media has evolved considerably, often serving as a conduit for communication among individuals who may never otherwise have had the opportunity to connect. As a result of this information and communication technology proliferation, social media companies are increasingly establishing relationships with small businesses (Humphreys and Wilken 2015). Namely, Twitter has grown to be a particularly important channel for businesses due to its open nature and non-reciprocal networked platform (Culnan, McHugh and Zubillaga 2010), enabling organizations to expand their reach and potential customer base.

Considering the existing literature of media storms/news flashpoints, heightened attention surrounding popular media spectacles has been linked to several offline outcomes (Boydston et al. 2014; Waisbord and Russell 2020; Walgrave et al. 2017). Our research attempts to provide these organizations with an outline for success in increasing their brand awareness and subsequent user engagement. With this goal in mind, the present study applied a modern approach to Dayan and Katz's (1992) media events theory to understand how current events coincide with social media engagement. While descriptive in nature, our goal was to analyze whether the framework of media events theory could be expanded to analyze social media content issued by small business organizations. Furthermore, the present study leverages a novel methodological approach to operationalize and visualize the engagement patterns of small businesses online.

Our findings offer several implications regarding the interplay between business-related Twitter activity and event-driven activity. As discussed, several of our hypotheses were supported—indicating rigorous support to suggest that the engagement that a Twitter account receives is related to its prominence and influence within a network. Specifically, we observed that business-centric engagement, or engagement driven by daily business operations, was positively related to event-driven engagement. Similarly, our results indicate that event-driven social media engagement leads to greater increases in small businesses' centrality in networks as opposed to business-centric engagement. The more involved the small business is with business-centric activities and media event-related activities on Twitter, the more central it is located and ranked within its network. Furthermore, with a specific focus on the hashtag networks spurred by these businesses, we found that these networks were correlated with both the sharing of content/retweets and replies, indicating the proliferation of the networks that these businesses were a part of.

Considering the existing literature about media events (Jackson and Foucault Welles 2016; Jungherr 2014; Sumiala

et al. 2016) and the storms that they generate (Boydston et al. 2014), we argue that our findings contribute to this existing body of work by contending that engagement that is spurred by a media event contributes to an organization's greater prominence within its network. As a result of our findings, we offer several practical, as well as theoretical, implications. Namely, we suggest that small businesses harness the opportunities provided by more significant media events. By joining the broader conversation sparked by these events, small businesses can expand their networks and leverage their position within their networks. From a theoretical vantage point, we posit that our findings offer a contemporary extension of the seminal framework as Dayan and Katz (1992) offered. While contemporary media has evolved considerably since the theory's first conceptualization in the early 1990s, our work illustrates that media events still serve as critical moments that captivate the public's attention. Furthermore, our study offers one of the first—to our knowledge—to utilize an extensive data content analysis to observe the impacts of a media event. Similarly, our study extends these theoretical frameworks by utilizing online user engagement as a primary dependent variable.

However, the present study is not without limitations. As we only sought to measure the effect of global media events, particularly those that were deemed relevant for the 2020 calendar year, it is possible that there were local and regional media events that were also relevant to small businesses and their engagement. Due to the nature of our study, these are relationships that this study was not posed to examine. Additionally, this study focused on some of the fastest-growing businesses in the USA, many of whom already had an established presence on social media. Media events may benefit small businesses that are newcomers to social media differently from businesses with an established brand presence. Lastly, the present study only sought to look at businesses in the USA, leaving open the question of what small businesses worldwide have to gain from media event engagement. This opens potential avenues for future research, as scholars would likely benefit from a more comprehensive understanding of how the average small business performs online daily. Furthermore, future researchers could benefit from a greater understanding of the more finite uses and gratifications that motivate small business owners to engage with their online networks.

In summary, the use of media events to foster social media engagement appears to be a tangible opportunity for small businesses to take advantage of. However, with only three percent of our sample discussing these events, it appears that small businesses may not pay enough attention to media events in the current environment. Furthermore, we found that most tweets issued within our sample were related to business strategy, such as advertising or developing a company's branding. To this end, most of the content

within our sample was related to promoting a specific product or service offered by the small business. While daily business operations are a vital facet of an organization's social media strategy, our results indicate that event-driven social media engagement has a more substantial impact on a business's network centrality when the level of business-centric engagement is high.

Based solely on our preliminary research, we argue that small businesses would benefit from greater participation in these significant social and media events and can ultimately leverage them to increase their visibility. As previously articulated, if small businesses are not using the opportunities afforded by media events to their advantage, it seems clear that they are missing out on the ability to grow and expand their network that comes at little to no cost to take advantage of (Cripps et al. 2020; Curran et al. 2011). In conclusion, our findings offer several implications that can be of particular use to small business owners, social media managers, and marketing professionals.

Author's contribution A. wrote the main manuscript text. C.D. aided with question creation. B.H. conducted network analysis. E.F.G. assisted with data collection.

Declarations

Conflict of interest The authors declare no conflict of interests.

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