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Mapping the online presence of small local sporting clubs

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Mapping the online presence of small local sporting clubs

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Abstract

The contribution of local ("grassroots") sporting clubs to their economies amounts to billions of dollars. These clubs typically rely on volunteers who use Internet platforms (such as websites and social media) to support their roles. Use of the Internet can assist these volunteers by facilitating improved information access, communication, and efficiency. Little is known about how local sporting clubs use this important information systems' function. This study extends Burgess' (2016) web presence pyramid model to examine factors leading to differences in Internet use by athletics and cricket clubs in the United Kingdom and Australia. The findings suggest that higher adoption levels of websites set up by clubs and social media and more sophisticated Internet usage are apparent in "upper" level (or well-resourced) local clubs than in "lower" level clubs, but with some important variations (such as interventions by sport governing bodies) that may assist smaller clubs to adopt online platforms. Guidance on using the extended model in other contexts is offered, as is advice for clubs and sporting associations looking to improve their use of Internet platforms.

1 | INTRODUCTION

The benefits of participation in sport include a healthier population and reduced health costs (Vail, 2007). Local sporting clubs are predominantly nonprofit organizations that facilitate participation in organized sport at the grassroots level, typically relying on volunteer support (Doherty & Carron, 2003). These volunteers cover various roles, including coaching, leadership and administration (Richards, 2015). The value of volunteer contributions in sport is substantial (Wicker & Hallmann, 2013). For instance, 15.5 million adults in England played sport in 2011/2012, supported by 3.2 million volunteers contributing an estimated £2.7 billion to the economy (Sport England, 2013). However, clubs are facing increased challenges to attract and retain volunteers (Balduck, Lucidarme, Marlier, & Willem, 2015; Nichols

et al., 2016). Volunteer administrator roles now require more time due to increased legislative and regulative requirements (Taylor & Morgan, 2017).

Internet platforms (such as websites and social media) can assist volunteer administrators to perform their roles by facilitating improved information access, communication, and efficiency (Australian Sports Commission, 2008). However, few studies examine the extent and nature of its use by local sporting clubs.

This research was guided by studies that examined small and medium sized enterprises' (SMEs) use of Internet platforms. Local sporting clubs are mostly nonprofit SMEs but differ from for-profit SMEs. For instance, sporting clubs rely on volunteers rather than employees, have committee structures and group-based decision-making rather than owner-manager centric structures, and typically rely on membership subscriptions, sponsorships,

and fundraising for funds (Balduck et al., 2015; Wicker & Breuer, 2011).

However, local sporting clubs face similar challenges to SMEs in using Internet platforms, often being hindered by *resource poverty*: a lack of adequate skills or time to implement them and limited funds to invest in their use (Bingley & Burgess, 2012). SMEs' size tends to reflect their Internet use level, with medium sized businesses generally adopting Internet applications at a higher rate than small businesses (Sellitto, Banks, Bingley, & Burgess, 2017). For instance, Yellow (2018) found that medium sized businesses (20–200 employees) had higher proportions of Internet connections, websites, and a social media presence than small businesses (1–19 employees). Similarly, Lopes and Melão (2016) examined the websites of Portuguese SMEs and found a relationship between website sophistication and business size.

We wanted to examine if this trend was similar for local sporting clubs. We expected that larger local sporting clubs would adopt and use Internet platforms to a greater extent than smaller clubs. However, the possibility existed that other factors could influence the extent and sophistication of clubs' Internet platform use. The study therefore examined the following research questions:

RQ1. Do larger local sporting clubs adopt and use Internet platforms to a greater extent than smaller local sporting clubs?

RQ2. Are there other factors that lead to differences in the adoption and use of Internet platforms by local sporting clubs?

To examine these questions, we developed the *sporting club web presence model* to determine the level and extent of use of different Internet platforms that comprise the web presence of local sporting clubs.

The article commences with the study's theoretical contribution, the development of the model to map the level and extent of the web presence of local sporting clubs. The study is then introduced, including method, data collection approach, and analysis. Results are presented and discussed, along with the theoretical and practical contributions, limitations of the study, and guidelines for use of the Internet by local sporting clubs.

2 | A MODEL FOR MAPPING THE WEB PRESENCE OF LOCAL SPORTING CLUBS

This section discusses the development of a model to map the web presences of local sporting clubs. It begins by examining earlier models to map for-profit SME web presences and explains how these were adapted for local sporting clubs.

2.1 | SME web presence models

An organization's web presence comprises Internet platforms such as a website, social media pages, e-commerce sites, and "third-party" sites (such as business directories) (Burgess, 2016). For instance, Yellow's (2018) study of Australian SMEs found that 72% had a website, 51% used social media and 16% were listed on a third-party website (such as a council, regional, or industry-based directory). These online platforms are accessed by different devices such as personal computers, laptop computers and mobile devices (smartphones and tablets). This study does not examine the use of these devices.

Earlier studies developed several models to map the use of the Internet by small businesses, but many assumed that small business use of the Internet developed in a "linear" fashion (a term coined by Martin & Matlay, 2001) over time. That is, SMEs started with simple Internet platform adoption (such as email or simple "brochureware" websites) and evolved to sophisticated uses (for instance, business processes integrated with online activities). The main criticism of these models was that the growth of the small business web presence was not always linear, if there was any growth at all (Alonso Mendo & Fitzgerald, 2005; Levy & Powell, 2003). More recently, Lopes and Melão (2016) study of Portuguese SME websites found mostly simple websites, with only 16% accepting online orders or reservations and 6% facilitating online payments. Additionally, Burgess (2016) noted that stage models mostly concentrated only upon small business websites, not including other aspects of the small business web presence.

Burgess (2016) developed the web presence pyramid model (refer Figure 1) to represent Australian small business' broader web presence. The model was based upon Angehrn's (1997) four "virtual spaces":

- *virtual information space* (where information is passed from business to customer), shown in Figure 1 as the row labeled "I";
- *virtual communication space* ("C"): two-way communication between businesses and customers.
- *virtual transactions space* ("T"): where organizations provide online facilities for customers to place orders, make payments or otherwise gain access to an online database.
- *virtual distribution space* ("D"): automated download of goods, such as books or music.

Web Presence Pyramid

E-services	Online distribution	**D**	Online distribution	E-services	
Online payment	Online database	**T**	Online database	Online payment	
Social networking	Online reviews	Business Contact tools	**C**	Business Contact tools	Online Reviews	Social networking
Added Value	Business information	Contact details	**I**	Contact details	Business information	Added Value
Features on Website			**Virtual Spaces**	**Features on Third Party Websites**	

The left side of the pyramid represents the small business website. The right side represents third-party websites, which included other Internet platforms where a club had a web presence, including business and regional directories, social media pages and e-commerce sites. The more commonly used virtual spaces (information and communication) are shown at the base of the pyramid, with the least common (distribution) at the top. For each space, basic (easier to implement) online features are closer to the center of the model. For instance, in the information space, it is easy for small businesses to add their contact details to their website or to third-party websites.

The different levels of use of website features are represented by different shading, which is described later. The model overcame several shortcomings of earlier, linear models. It could map the web presence of small businesses as they developed (in linear or nonlinear fashion) as well as the multiple Internet platforms that make up the small business web presence (websites, online directories, e-commerce sites, and so forth). Additionally, it represented the small business web presence *visually*. For these reasons, we considered it ideal as a starting point to represent the web presence of local sporting clubs.

One observation made by Burgess (2016, p.126) was that newer models should include social media sites as a standalone category because "...some small businesses used a social networking site almost as a default website to replace the need to have a business website." The popularity of social media sites amongst SMEs, as noted by Yellow (2018) and other studies (see, for instance, Odoom, Anning-Dorson, & Acheampong, 2017) supports this.

2.2 | Developing the local sporting club web presence model

Several studies have examined use of the Internet by sporting clubs, but most have concentrated upon its use in larger sporting clubs and leagues (see, for example, Evans & Smith, 2004; Ioakimidis, 2010; Nisar, Prabhakar, & Patil, 2018). Bingley and Burgess (2012) used Angehrn's virtual spaces to examine Internet platform use by local sporting clubs in New Zealand. The authors noted some aspects of the use of the Internet relevant to the development of the sporting club web presence model:

- Internet platforms incorporated three of Angehrn's spaces, but there were no examples of the distribution space. This was not surprising because clubs' main activity is providing opportunities for sport participation—which cannot be "downloaded."
- Burgess and Bingley (2012) noted that some sport governing bodies provided their clubs with websites, generally as "templates," where clubs entered information in appropriate sections. These websites linked to a database (maintained by the sport governing body) that contained current and historical match and player statistics.

Figure 2 shows the new sporting club web presence model. As with Burgess (2016), the model operates from the "center out," with the basic features in the center and advanced features furthest out. The model incorporates two extra Internet platforms, sport governing body websites and social media sites. It also uses the term *club-initiated website* to describe a website set up by a club. Note that the order of the information, communication and transactions spaces is also from the "center out" in the model.

Several important adaptations to Burgess' (2016) model were made to allow for its use to map the web presence of local sporting clubs (outlined in Table 1).

Table 2 shows the website features examined for the study. Note that the most basic form of communication involved "likes" or "check-ins" by users. User comments were content (images, video, or text) posted by users or

Online payment	Statistics or ladders	Results, teams, fixtures, etc	**T**	Results, teams, fixtures, etc	Statistics or ladders	Online payment
Outside comments (high volume)	Outside comments (low volume)	Basic contact: likes, check-ins, etc	**C**	Basic contact: likes, check-ins, etc	Outside comments (low volume)	Outside comments (high volume)
Added Value	Basic club information	Basic club contact details	**I**	Basic club contact details	Basic club information	Added Value
Features on Club-initiated websites			**Virtual Spaces**	Features on Sport governing body websites		
Features on Social Media sites				Features on Third Party websites		
Added Value	Basic club information	Basic club contact details	**I**	Basic club contact details	Basic club information	Added Value
Outside comments (high volume)	Outside comments (low volume)	Basic contact: likes, check-ins, etc	**C**	Basic contact: likes, check-ins, etc	Outside comments (low volume)	Outside comments (high volume)
Online payment	Statistics or ladders	Results, teams, fixtures, etc	**T**	Results, teams, fixtures, etc	Statistics or ladders	Online payment

FIGURE 2 Sporting Club Web Presence model (adapted from Burgess, 2016)

TABLE 1 Differences between Burgess' (2016) Web Presence Pyramid model and adapted Sporting Club Web Presence model

Feature in Burgess (2016) model	Alteration	Adapted sporting web presence model	Reason for alteration
Angerhrn's four spaces	Removed distribution space	Angerhrn's information, communication, and transactions spaces	Distribution space not needed for sporting clubs (Bingley & Burgess, 2012)
Model examines two categories of web presence: Website and "other" websites	Two web presence categories added	Club-initiated website	Equivalent to "website" in Burgess (2016)
		Sport governing body website (addition)	Added to reflect separate type of website available to clubs (Bingley & Burgess, 2016)
		Social media (addition)	Added as suggested by (Burgess, 2016)
		Third-party websites	Similar to Burgess (2016), except social media is no longer included as it has its own category.

retweets that included the club's Twitter handle. The volume of user comments per month was calculated as an average over the previous 6 months.

Figure 3 illustrates use of the model in practice by showing the extent and sophistication of web presence platforms for all clubs in this study.

Note that each quadrant has three bars (Angehrn's information, communication, and transactions spaces). The length of the bars reflects the level of adoption of an Internet platform. For instance, 65% of clubs adopted club-initiated websites and 88% adopted third-party websites (47% had a sport governing body website and 86% had a social media site). This is an enhancement to the Burgess (2016) model, which did not show the proportion of clubs who had adopted each online platform. This approach is often used

(in bar charts) to represent information and communications technology (ICT) adoption. For instance, the Yellow (2018) study used numerous bar charts to illustrate the levels of adoption of different aspects of ICT use by small businesses.
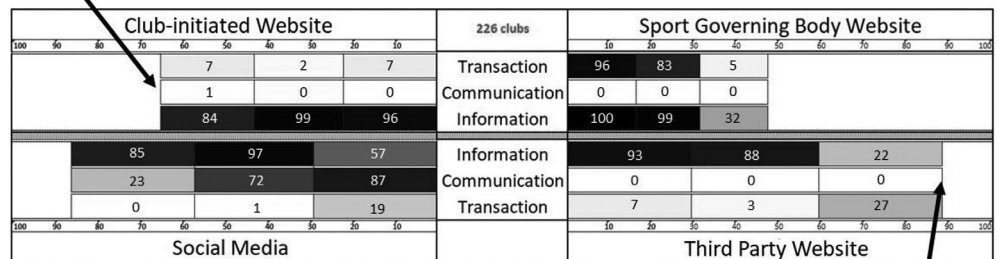
As outlined earlier, the level of adoption of Internet features within Angehrn's spaces is represented by shading. Figure 4 shows how different adoption levels were represented in the model by MS Excel. The shading has been set up using the spreadsheet's Graded Color Scale feature, which provides a shade between white and black depending upon a cell's value. For this model, the shading level depends upon how the cell fits in a range between a predetermined minimum value (in this case 0, representing no adoption—set up as white shading) and a maximum value (1 or 100% adoption—as black

TABLE 2 Website features examined in the study

Virtual space (Angehrn, 1997)	Sophistication level	Website feature category for level	Website features relevant to category
Information	Basic	Basic club contact details	Club name; location; telephone number, location map; email address
	Intermediate	Basic club information	About the club; committee members; office bearers; training information; how to join; sponsor details; club photos/videos
	Advanced	Added value	"Hard coded" competition results, ladders and fixtures; club history; latest news; weather links; social events calendar
Communication	Basic	Basic interaction	Likes, check-ins, etc.
	Intermediate	User comments (low volume)	<7 text comments posted per month (including images or videos) or retweets directed to club
	Advanced	High volume of user comments (>= 7/ month)	>= 7 text comments posted per month (including images or videos) or retweets directed to club
Transactions	Basic	Results, teams, fixtures, etc.	Results, teams, fixtures, or fantasy league accessible via real-time database
	Intermediate	Statistics or ladders	Real-time player/member statistics or competition ladders
	Advanced	Online payment	Real-time registration payments; club merchandise; donations

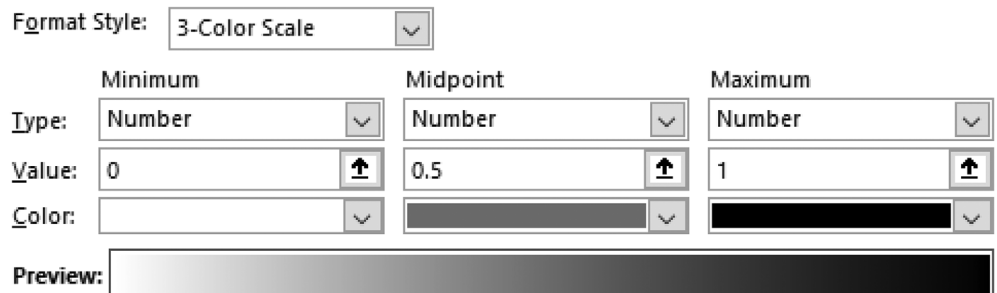**FIGURE 3** Example of practical implementation of sporting club web presence model

65% adoption of club-initiated websites

88% adoption of third party websites

FIGURE 4 Cell shading settings in MS Excel for the sporting club web presence model

TABLE 3 Details of athletics clubs' website presence analysis

Association	Clubs in association	Club size (number of members)		Web presences analyzed (clubs with club size provided)	% of possible clubs analyzed
		Lower split (<=100)	Upper split (>100)		
UK regional athletics association	74	22	40	62	84
Australian state athletics association	58	35	22	57	98
Total	132	57	62	119	

shading). Note also that a midpoint value, in this case 0.5 (50% adoption—gray shading) was also used.

Each bar has three levels (basic, intermediate, and advanced activity in the space) which indicates the *extent* to which each online platform has been implemented within the clubs, moving from basic features in the center of the model to advanced features on the outside (as used by Burgess (2016). The level of use of each of these features is represented by shading. For instance, club-initiated standalone websites predominantly contain information space features. For illustrative purposes, the actual percentage level of adoption of features is shown in Figure 3.

3 | METHODOLOGY

The study adopted a survey approach to analyze the web presence of local sporting clubs, similar to that adopted by Burgess (2016).

Cricket was selected because we had contacts within the sport. At the local level, cricket is played as a team sport by clubs within leagues or associations, split into different "grades" to represent different competition levels and sometimes geographical areas. Clubs often have teams in multiple grades. Cricket is played in many countries, from local club cricket to *first class* and *international cricket* at the elite level. Athletics was selected because it provided several contrasts with cricket. Multiple sports are generally conducted within an athletics club, including track, field and cross-country events. Most athletics activities involve individual performances, which can be combined into team events via relays or clubs competing at athletics meetings. The local athletic club structure is typically much flatter than in cricket, with athletics clubs catering for athletes from grass-roots to elite levels. The two sports also differ in how results of competitions are recorded.

The web presences of clubs across the two sports were examined in two countries. The geographic areas studied were one State in Australia and a Region in the United Kingdom. Each area contained a major city, numerous towns and a rural area. According to Miniwatts Marketing Group (2017), 95% of the UK population had adopted the Internet, compared with 88% of the Australian population, so both countries were at the upper end of world countries' Internet penetration. The approaches used to collect and analyze data were identical for each sport and region, except for how we identified participating clubs (explained later).

The study examined adult sport (18 years and above). In athletics, adult and junior sporting clubs can be merged or run separately. In cricket, it is typical for adult and junior teams to be run within the same local club. Thus, junior-only athletics clubs were not included in the study. Some cricket clubs were part of multi-sports clubs, combined with other sports like netball. In these instances, only the web presence related to cricket was examined.

As background, one of the authors conducted several informal interviews with office bearers in the relevant sport governing bodies overseeing both sports. These are referred to in the paper to provide context.

The initial aim was to investigate a similar number of clubs in each sport and region. For athletics, one association covered the selected geographic area in each country. The size of different clubs was determined by their number of members (described in Appendix One).

Details of participating athletics associations are shown in Table 3. Note that not all clubs were analyzed. This is because the number of members could not be determined for 13 clubs (12 in the United Kingdom, one in Australia).

Note also that clubs were split into two different categories (upper and lower) according to their size. The category boundary (100 members) was selected to keep the overall number of clubs in each category at similar levels. This resulted in a larger proportion of UK clubs in the

large category compared with Australia. This is not surprising given population differences between the two countries.

Cricket club selection was different to athletics. Cricket clubs usually enter multiple teams in leagues/associations, each of which is allocated into a grade or division. Higher standard grades are labeled, for instance, as "Premier Division," "First Division," or "A Grade." Some clubs have teams across multiple leagues and associations. After discussions with sport governing body officials it was decided that, in the absence of measures of the number of members, clubs with teams in upper grades were more likely to be larger clubs (with more teams). Metropolitan and rural leagues/associations were selected after consultation with cricket's governing bodies. Selected clubs were split into "upper" and "lower" divisions according to where their highest level ("first") team was graded (described in Appendix One). Table 4 shows the breakdown of cricket clubs in the study. Only clubs whose "first" team was in the league or association being investigated were considered. The average number of teams for clubs in each upper and lower "split" is also shown. This figure is higher for the upper split in each league/association, which shows that these clubs are, on average, larger.

Two cricket leagues (one metropolitan and one rural) were investigated in each country. The two UK leagues had 111 qualifying clubs. This was too many clubs to keep the number investigated between sports and countries at similar levels. Two clusters of clubs (upper and lower) were selected for sampling in each league. Middle divisions were excluded in each division, which meant that 29% of qualifying clubs in the UK metropolitan cricket league and 85% of qualifying clubs in the UK rural cricket league were included. All clubs in the Australian associations were included in the study. Note in Table 4 that there is an imbalance in the Australian rural cricket association splits between upper and lower level clubs. An imbalance occurred no matter how the split was made across grades.

Data collection was carried out using a content analysis survey approach (described in Appendix One), similar to that adopted by Burgess (2016). Content analysis was used to determine the *frequency* (Williamson, McGiven, & Scifleet, 2013) of features on all websites or web pages. "Frequency" was determined by the cumulative presence or absence of specific features, as described earlier and used by Burgess (2016).

The analysis involved examination of 226 local sporting clubs in Australia and the United Kingdom and an investigation of 775 club websites or club-related web pages comprising 148 club-initiated standalone websites, 107 sport governing body websites, 321 social media sites (mostly Facebook and Twitter, but also Instagram and Strava, a social network site for cycling, running and swimming athletes) and 199 third-party sites (including online stores, dedicated sports mobile applications [apps] and regional, sports and local council directories). Dedicated sports mobile apps are applications designed to be mainly accessed via mobile devices. They allow clubs to set up information space features (such as contact

TABLE 4 Details of cricket clubs' website presence analysis

| League/association | Clubs with "first team" in league/ association | Club web presence analyzed | | Web presences analyzed | % of possible clubs analyzed |
		Lower split (average # teams)	Upper split (average # teams)		
UK metropolitan cricket league. Upper: Premier and first divisions. Lower: Divisions 7–12.	78	14 (1.9 teams)	15 (4.6 teams)	29	37
UK rural cricket league. Upper: Premier and first divisions. Lower: Divisions 4–6.	33	13 (1.4 teams)	15 (2.5 teams)	28	85
Australian metropolitan cricket association. Upper: A and B grades. Lower: C, D, and E grades.	30	14 (1.9 teams)	16 (3.2 teams)	30	100
Australian rural cricket association. Upper: First and second grades. Lower: One day A and B grades.	20	4 (1.3 teams)	16 (3.6 teams)	20	100
Total		45	62	107	

details), communication features (like SMS messaging) and transactions features (such as online payments and match or player statistics). These apps also had corresponding club web pages with the same functionality which were captured as part of the website analysis.

Fisher's exact test of independence (a nonparametric test) was used to assist in examining the research questions. Fisher's test is suitable when there are two nominal variables and the proportions of one variable (in this case, whether a platform or feature is adopted or not) are being compared against another variable (McDonald, 2014), in this case upper and lower level local sporting clubs. Fisher's test has been criticized for being *too conservative*, sometimes missing instances where differences occur. Also, as with other categorical tests (such as chi-square), the test only identifies *significant* differences, not the *extent* of the differences (Freeman & Campbell, 2007). It is possible for statistically significant differences to exist, but not be important (Oller, 2006). Some examples of this occur in this paper.

4 | RESULTS AND DISCUSSION

4.1 | Club size

This section examines RQ1: *do larger local sporting clubs adopt and use Internet platforms to a greater extent than smaller clubs?*

4.1.1 | Adoption

Figure 5 shows the sporting club web presence models for upper and lower level clubs. A higher proportion of upper level clubs adopted all Internet platforms. Table 5 shows the results of the Fisher's Exact test conducted for each Internet platform. The differences for only two of these platforms (club-initiated websites and social media) are statistically significant. To highlight significant differences in the usage of features (discussed in the next section), a star (⋆) has been placed in cells in Figure 5 where Fisher's exact test found a significant difference between the levels (see Appendix Two, Table 9). The star has been placed where the club level has the highest usage.

There were no significant differences in the adoption of sport governing body websites between upper and lower level clubs.

The assumption with regard to upper and lower level clubs was that a higher proportion of upper level clubs would likely adopt Internet platforms, as they were less affected by resource poverty than lower level clubs. This occurred for club-initiated websites and social media, results that are consistent with those found in the Yellow (2018) study, where medium sized businesses adopted these platforms in higher proportions than small businesses.

The results are unclear as to whether a difference in the adoption of third-party websites existed between upper (93%) and lower level clubs (82%). While the web presence model suggests a possible difference, this is not
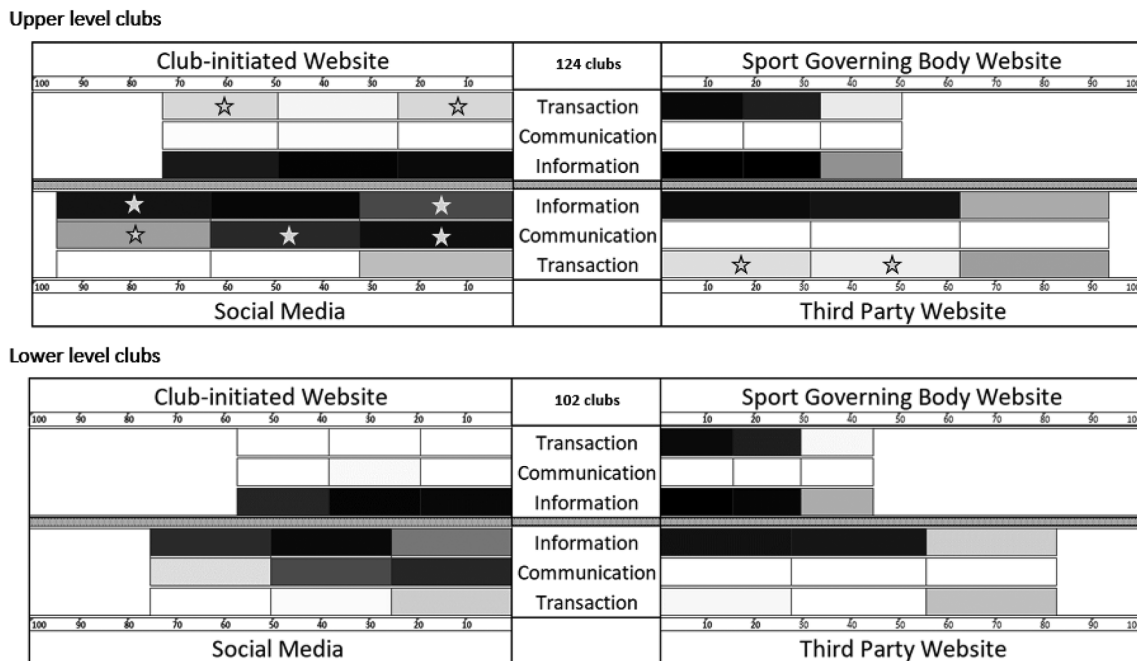

FIGURE 5 Sporting Club Web Presence models for upper and lower level local sporting clubs

confirmed by Fisher's exact test, which (as noted earlier) is regarded by some as being too conservative. Third-party websites in this study were a mix of directory websites (easy to set up) and dedicated mobile sporting apps and e-commerce sites (more difficult to set up), so this may also have influenced the unclear result.

4.1.2 | Usage

Refer to Appendix Two for all Fisher's Test results related to usage of features.

Figure 5 also shows the extent of usage of different website features, represented by the shading in each cell. Differences between the upper and lower levels can be seen by examining the shading in the upper level model and comparing this with the corresponding cell in the lower level model. In all instances where significant differences exist, stars ($\star$) show that upper level clubs had the higher proportional usage.

On club-initiated websites, upper level clubs adopted two transactions features (12% basic and 12% advanced) that were not adopted by lower level clubs. The features included results that can be accessed real-time and online payment facilities.

In a trend observed throughout the study, no clubs used communication space features on their websites. This suggests that the website blogs of the past have been replaced by social media. A small number of these blogs were found (mostly on WordPress websites) but were not active.

There were no significant differences in the extent of usage for any of the features between upper and lower level clubs on sport governing body websites.

On social media sites, a higher proportion of upper level clubs had basic club details (64%) and advanced club information (94%) in the information space than lower level clubs (46% and 78%, respectively). The low adoption level for basic club details was surprising as these were expected to be an easy feature to adopt. However, during the content analysis, it was noted that Facebook's interface made it easier to *describe* a club than enter basic contact details (such as address or telephone number). Basic contact details are entered on a separate page.

All aspects of the communications space on social media sites were adopted by a higher proportion of upper level than lower level clubs.

There were two areas of significant difference between upper and lower clubs on third-party websites with regard to basic (10% upper, 2% lower) and intermediate (5% upper, 0% lower) transactions features. These were mainly from the use of mobile sporting apps that accessed real-time statistics. However, there were not large levels of adoption for these features, so perhaps this

is an example of a difference that is significant, but not that important.

4.1.3 | Summary

Regarding RQ1, the evidence to support significant differences in the adoption and use of Internet applications between upper and lower level local sporting clubs is strong for the adoption of club-initiated websites and social media, but not for sport governing body and third-party websites. Also, the way in which the sites were used indicated some similar differences. Information space features are generally easy to enter on Internet platforms and mostly there were no significant differences between upper and lower clubs. However, differences did exist in social media usage for basic contact details and advanced information space features.

There were also differences in the usage of social media across all aspects of the communications space.

Finally, the transactions space would be viewed as being more complex to adopt than other spaces. Typically, upper level clubs adopted these features for both club-initiated and third-party websites to a greater extent than lower level clubs. Overall, when considering RQ1, differences in usage do exist for those features that are more difficult to implement (across all spaces).

4.2 | Other factors influencing the adoption and use of internet platforms

In this section, we examine RQ2: *are there other factors that lead to differences in the adoption and use of Internet platforms by local sporting clubs?*

4.2.1 | Individual sport influences

Adoption
Figure 6 shows sporting club web presence models split between athletics and cricket sporting clubs. Once again,

TABLE 5 Fisher's Exact test for independence results across Internet platform for upper and lower level clubs

Internet platform			
Club-initiated website	Sport governing body website	Social media	Third-party website
0.0168[a]	0.4227	0[a]	.1256

[a]Difference is significant at 95%.

a star has been placed in cells where Fisher's Exact test found a significant difference in usage of a feature between the two sports. Also note that athletics clubs do not have sport governing body websites, so it was not possible to determine usage differences between sports for this Internet platform.

Table 6 shows the results of Fisher's exact test for all Internet platforms for athletics and cricket clubs.

Some differences were found across the two sports examined in the study. This could be akin to examining different SME industry sectors. For instance, the Yellow (2018) study of Australian SMEs discovered differences amongst industry sectors, where sectors such as finance and insurance had the highest proportion of computer ownership and Internet connections, while retail and wholesale trades sectors had the lowest (Yellow, 2018).

The obvious difference between sports was the provision of sport governing body websites for all cricket clubs by cricket governing bodies (in the United Kingdom and Australia), a service that was not offered by the athletics governing bodies in the two countries. We knew in advance (from Bingley & Burgess, 2012) that cricket clubs were likely to be provided with a sport governing body website. The findings revealed that *no* athletics clubs had such a website. Thus, there was a significant difference between the two sports (as per RQ2). However, care needs to be taken in generalizing this finding to other sports and countries. This intervention meant that all cricket clubs had a website, with most leagues and associations requiring their clubs to use the sport governing body website to record player and match statistics.

There was another apparent flow-on effect from this. The existence of sport governing body websites also appears to influence the level of adoption of club-initiated websites within the sport. There was a stark difference in the adoption level of this Internet platform between the two sports, with 94% of athletics clubs adopting this platform compared to only 34% of cricket clubs. The suggestion here is that if a sport governing body provides a website then a club is less likely to want to set up its own.

Usage

As a higher proportion of athletics clubs adopted club-initiated websites, it is not surprising that a higher proportion of them also adopted basic (98%) and advanced (89%) information space features than cricket clubs (89 and 67%, respectively). Although registering as a significant difference, there is not a large proportional difference between the sports for basic information space features (9%) and this may not be important. However, the 22% difference in advanced information space features may have occurred because 32% of cricket clubs already had these features on their sport governing body website.

On social media a higher proportion of cricket clubs (64%) recorded their basic contact details than athletics clubs (50%). Although this is also a significant difference ($p = .0427$), it is difficult to find a reason for this, as
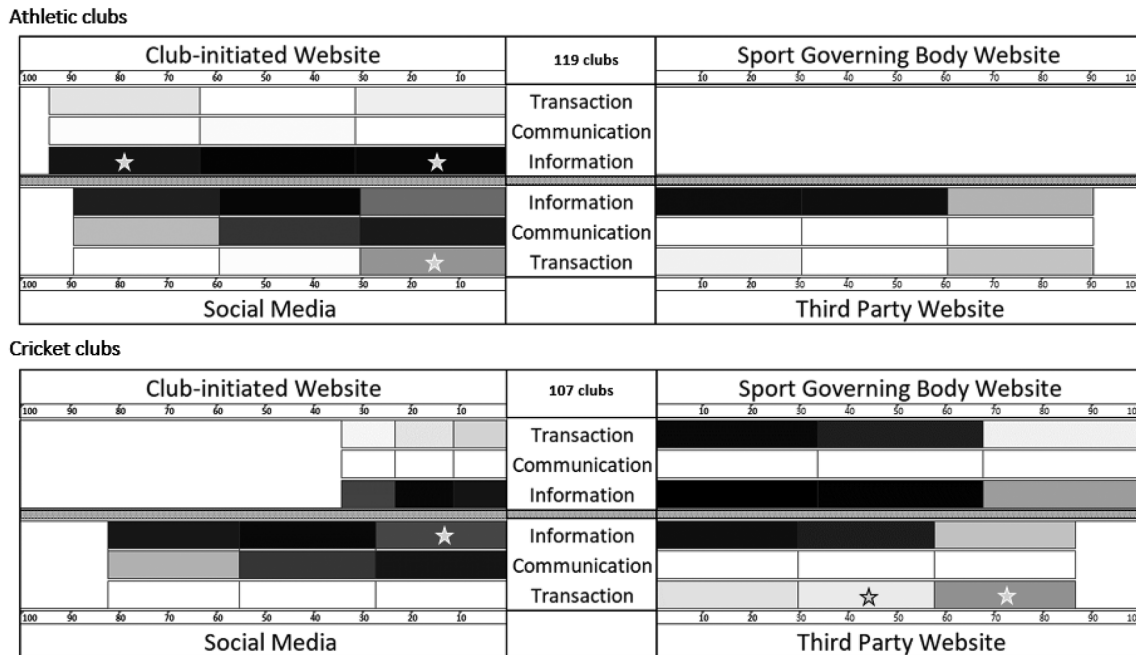

FIGURE 6 Sporting Club Web Presence models for athletics and cricket local sporting clubs

TABLE 6 Fisher's Exact test for independence results across Internet platform for athletics and cricket clubs

Internet platform			
Club-initiated website	Sport governing body website	Social media	Third-party website
<0.00001[a]	<0.00001[a]	0.1811	0.4146

[a]Difference is significant at 95%.

adoption levels of both Facebook and Twitter were almost identical for the two sports. However, further investigation revealed that the differences were related to cricket clubs using maps on Facebook to show their locations (visually). This feature was used by 24% of cricket clubs but only 9% of athletics clubs. Indeed, the main usage occurred in the United Kingdom (UK metropolitan cricket league 38%; UK rural league 24%). This could indicate encouragement to use that feature by the UK cricket governing body, but there was no indication that "micro" level of advice being offered to clubs. The finding more likely reflects that member clubs in those leagues copied the online features of clubs in the same league. This is akin to the notion of mimetic isomorphism, where organizations mimic competitors when they are uncertain of what to do (DiMaggio & Powell, 1983). For instance, Pant and Sheng (2015) recently found evidence of online isomorphism, where the web footprints of competing firms overlapped.

There were no significant differences found between the two sports in the communications space for any of the Internet platforms.

A significant difference was observed in the transactions space of social media due to (only) athletics clubs using Strava (35%). Strava can track and record performances using GPS or manually entered data. Athletes can record their own training and race results online, which provides a transactions space feature on a social media site not available to cricket clubs.

There were also significant differences found in intermediate and advanced transactions features in the transactions space on third-party websites. With intermediate features, this was mostly due to the use of real-time competition ladders in mobile apps by cricket clubs, although the extent of usage was low; 7% for cricket clubs versus no usage by athletics clubs. Advanced features showed differences in the use of online payments by cricket clubs (36%) and athletic clubs (10%). The difference across sports may be due to the nature of the equipment required. For many athletics events (track and long-distance running events), an athlete requires shirt, shorts, and athletics shoes. Cricketers require either white, cream, or colored clothing, but

may also require their own club-branded caps or hats. Additionally, they may purchase shoes, cricket bats, protective pads (for leg protection) and other protective equipment (such as a helmet). Many online sites provide this equipment in addition to clothing. This finding is worth further investigation.

4.2.2 | Location and other influences

In this section we discuss the potential effect that different locations may have on the adoption and use of Internet platforms.

Adoption
Figure 7 shows the sporting club web presence models, split between the UK and Australian sporting clubs.

Table 7 shows the results of Fisher's exact test for all Internet platforms for athletics and cricket clubs.

There was a significant difference in extent of club-initiated website usage, with a higher proportion of UK clubs (72%) adopting them than Australian clubs (58%). These differences are mostly due to 46% of UK cricket clubs having a club-initiated website compared to 20% of Australian clubs ($p = .0074$). No such difference exists in the adoption of club-initiated websites in *athletics* clubs ($p = .2576$). We believe this is due to the user interface and/or ease of use of the Australian sport governing website when compared with the UK website. During data collection, it was noted that although the two websites provide similar functionality, the Australian website (MyCricket, provided by Cricket Australia) looked much more professional and (probably) easier to use than its UK counterpart (Play-Cricket, provided by the England and Wales Cricket Board). We believe that UK cricket clubs were more likely to use alternatives (such as club-initiated websites) to achieve the web presence they required. This is explored further in the next section.

If this is so then the reason for the difference in adoption of club-initiated websites should not be considered to be "location-based," but rather due to ease of use of one Internet tool over another.

Usage
The notion that Australian sport governing body websites might be easier to use is supported when looking at website usage across the two locations. A higher proportion of Australian cricket clubs used advanced information space features (44%) and intermediate transactions space features (94%) than UK cricket clubs (21 and 74%, respectively). However, this situation is reversed somewhat for club-initiated websites. A higher proportion of
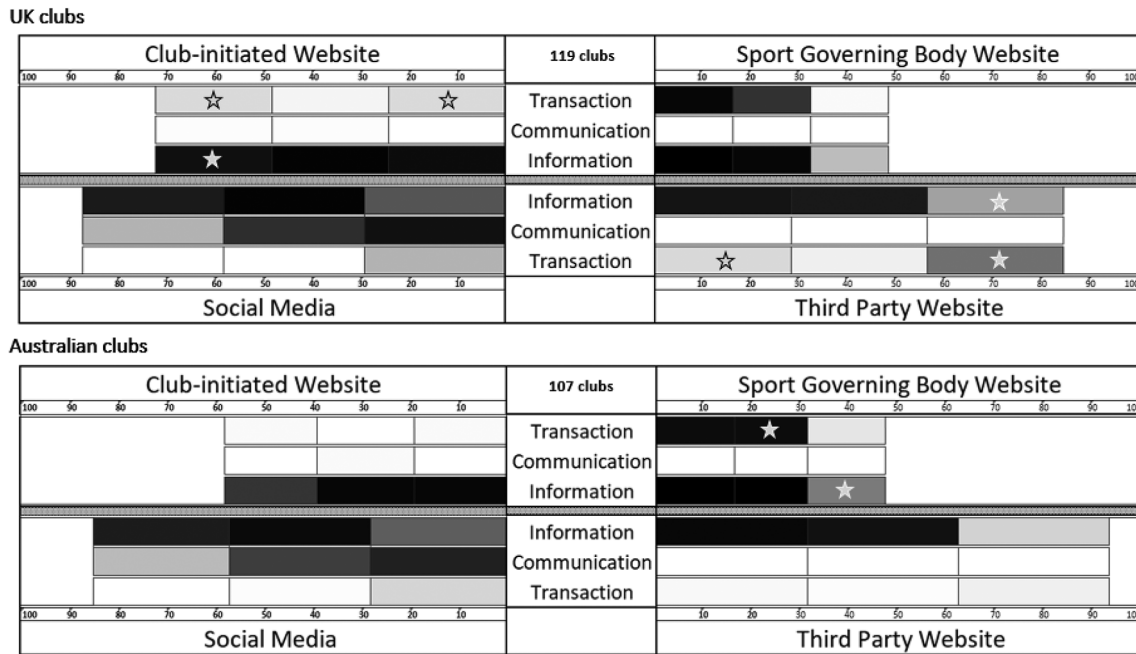
FIGURE 7   Sporting Club Web Presence models for UK and Australian local sporting clubs

TABLE 7   : Fisher's Exact test for independence results across Internet platform for UK and Australian clubs

Internet platform			
Club-initiated website	Sport governing body website	Social media	Third-party website
0.0257[a]	0.8943	0.8489	0.064

[a]Difference is significant at 95%.

UK clubs used advanced information space features (81%) than Australian clubs (30%). This is consistent with the argument that the difference could be due to ease of use of the sport governing websites. Nonetheless, there were also differences between UK and Australia *athletics* club-initiated websites, especially with regard to the advanced transactions space. A higher proportion of UK athletics clubs adopted advanced transactions space features (15%), such as online payments, than Australian athletics clubs (2%, $p = .0191$).

For third-party websites, the significant differences between UK and Australian clubs in the use of club-initiated website features were also reflected in the usage of identical third-party website features. Within this category, there was more activity in the transactions space in UK clubs than in Australian clubs. At the basic transactions space level this was mainly due to the use of dedicated sport mobile apps which again appeared to be used

to replace similar functionality in cricket clubs to sport governing body websites. Perhaps (as already considered), this was due to having a better user interface. At the advanced transactions level for third-party websites, many online UK retailers sold club-branded sports and leisure clothing. The transaction activity on third-party websites mostly involved retailers, such as Teamware (www.myteamware.com), allowing clubs to set up dedicated "club" pages that were used to order custom-branded clothing.

This form of mass customization, where ICT assists the production of personalized goods on a mass scale (Gandhi, Magar, & Roberts, 2013), benefits from having a larger market to service. For instance, in 2019, the number of Internet users in the United Kingdom was just over 63.3 million, compared with Australia's 21.7 million users (Miniwatts Marketing Group, 2019). In this study, the average size of athletics clubs and the number of clubs in cricket leagues was higher in the United Kingdom than their Australian counterparts, indications of a larger market to serve.

Australian cricket clubs mostly used their governing body website to accept online payments rather than third-party websites. This may have been due to the lack of third-party options in Australia, but perhaps also due to the simplicity of setting up online payments through the governing body website in Australia (as suggested earlier). With regard to RQ2 overall, it seems likely that there is a "location" effect with regard to the advanced transactions options

(especially online payments) available to UK clubs versus Australian clubs.

Summary

Considering RQ2, other factors emerged in the study that potentially influenced the adoption and usage of Internet platforms. The provision of sport governing body websites by cricket clubs appeared to influence the level of adoption of club-initiated and even some third-party websites (*sport-influenced difference*). The *ease of use* of online applications can potentially influence their adoption. Finally, the size of the UK market and the availability of third-party transactions websites in the United Kingdom made adoption of the latter potentially more likely than in Australia (*location-influenced difference*). Thus, in addressing RQ2 there *were* factors other than club size that appeared to influence the adoption and use of Internet platforms.

5 | THEORETICAL CONTRIBUTION

The study extends small business information systems research into the realms of local sporting clubs. Burgess' (2016) web presence pyramid model was extended to the sporting club web presence model by adding two extra categories of web presence (sport governing body websites and social media), as well as the level of adoption of separate web presence features which did not exist in the earlier model. The extension of the Burgess (2016) model results in a Type I theory contribution as described by Gregor (2006). A Type I theory (Theory for Analyzing) analyses the "what is" of some phenomena. In this paper, the sporting club web presence model classifies the adoption and extent of use of the Internet platforms. We applied this to analyze the influence of club size on the use of Internet platforms, and to identify other factors that may have influenced their usage. The sporting club web presence model could be applied by other researchers in several ways. It can be used to compare two groups of clubs (as has occurred in this study), or.to examine the web presence adoption and extent of use of any local sporting league or association where clubs rely on Internet platforms. As an example of the potential range of sports this can cover, up until 2019 *Club Mark*[1] was Sport England's primary national accreditation scheme for community sports clubs and accredited over 14,000 clubs across over 50 sports. They encouraged clubs to develop digital strategies involving websites and social media.

The extended model could also potentially be applied to conduct research into other nonprofit organizations and small businesses. With no need for a sport governing sporting body website, the four quadrants of the model could include websites and social media sites within the current model. Angehrn's (1997) distribution space could then be added back to the model (as per Burgess, 2016). Third-party websites could then be split into two quadrants, those providing transactions features (such as dedicated sporting mobile apps and e-commerce sites) and business directories. However, application of the model does require access to the web presence of those organizations via a search engine, so it can only be applied in regions or countries where such access is readily available.

6 | PRACTICAL IMPLICATIONS

This study has several practical implications. There is strong evidence that differences in proportions of adoption and extent of usage of web presence platforms are due to resource poverty in lower level local sporting clubs. This was especially apparent with regard to the adoption of club-initiated websites and social media, and the usage of more difficult-to-implement features such as advanced information space, communications space features (on social media sites) and transactions space features. Sport governing bodies and sporting leagues and associations should understand that there are differences with regard to Internet use amongst their clubs and that different strategies may be needed to support volunteers in "lower level" clubs to use the Internet effectively. It is expected that this result would be generalizable to any local sporting league or association in regions where clubs can decide what Internet platforms they implement and how they implement them.

However, there are differences in use of the Internet by local sporting clubs that do not relate to club size. The proportion of clubs adopting club-initiated standalone websites was higher for athletics clubs than cricket clubs. This is likely due to *sport governing bodies* providing websites for cricket clubs. Thus, in other local sporting leagues or associations where websites with useful functionality are provided by sport governing bodies, we would expect that fewer clubs would see a need for club-initiated websites. Sport governing bodies that do not currently provide websites for their clubs could consider such an intervention, as this could assist local club volunteers who do not possess the capabilities to set up their own websites. However, they should also consider the ease of use of the online platforms they provide, as the results of this study suggest this may be driver for clubs to use the platforms effectively (especially their intermediate and advanced features).

The *nature of the sport* may influence the Internet features used by clubs. In the study, cricket clubs used online payments to a greater degree than athletics club. This may be due to the need for more specialized clothing and protective equipment in cricket. Also, only athletics clubs used the social media tool Strava to track individual performances. We would expect to find other such adoption of individual website features when suited to specific sports.

Differences were found in the proportion of usage of online payments across locations, with greater use in the United Kingdom than in Australia. There are more third-party options available for online transactions in the United Kingdom for clubs to access than in Australia. For this online activity to be encouraged in regions such as Australia, sport governing bodies could perhaps provide such options. This happened with Australian cricket clubs, who had access to a user-friendly online transaction facility provided by Cricket Australia.

6.1 | Guidelines for local sporting clubs

This section outlines some basic criteria that emerged from the analysis that sporting clubs looking to use the Internet to improve their operations can follow:

- Websites
  - *Where provided by sport governing body*: Clubs should provide details of how potential members can engage with them. The study found that club policies, regular news and details of events were often provided on websites, so their provision could be considered. Governing body websites also provided match results and statistics that can be accessed real-time and online payment facilities to sell club merchandise or collect membership fees.
  - *Club-initiated website*: Clubs without a governing body website should consider having a club-initiated website, even a "brochureware" site to provide basic contact information for potential members. They can also provide club policies, news and event details (as per sport governing body websites). These sites were not typically used for real-time statistics (likely due to the complexity of setting this up) but some had online payment facilities for receiving members fees and selling club merchandise. Some cricket clubs with a sport governing body website also chose to have a club-initiated website, perhaps to provide a site different in appearance from other clubs.
- Social media: Clubs implementing social media should remember two important aspects of its use. They

should ensure that their contact details are available on the site for potential members. This was absent for many clubs in the study. Also, it is important that regular content is contributed. This can show new members that a club is active socially and keep current members up-to-date with club activities. In this study, many club social media pages were barely used or not used at all. In sports such as athletics, we observed that participants used the social media site Strava to record their own performances. Note that the study did not examine closed social media groups.

- Third-party websites: Where possible, clubs should place their contact details for potential members to access on council and regional directory websites. We noted many instances of clubs using these websites. These are usually free to use and easy to set up. However, the club details on some of these sites were missing or out of date. Clubs should keep records of these sites to update contact details when they change. Where available, online payment systems can be used for membership fees or to sell club-branded material as an alternative to doing this on a website. Dedicated mobile apps can potentially be used for player and club statistics.

7 | LIMITATIONS

There are several limitations in the study. The study was limited to two sports. However, we believe that findings regarding club size across two sports that are so disparate suggest that the likelihood of similar findings in other sports is strong, especially in countries where clubs are free to set up their own Internet presence. However, this needs to be tested further. Also, the study was limited to two sports in specific regions in two countries: Australia and the United Kingdom. These two countries are very similar in many aspects, including levels of Internet adoption. Care should be taken in looking to generalize the findings beyond sports and/or countries of similar profile, as different levels of Internet usage and web presence platforms (such as social media) and access to different platforms and expertise differ across countries and regions. Finally, the separate approaches used to compare upper and lower level clubs in the two sports should be noted.

8 | FUTURE RESEARCH

These results set the scene to examine further questions identified that emerge from the results. For instance, which *specific* factors influence the adoption and extent

of use of different Internet platforms by local sporting clubs? These could be skills/knowledge, finances, available time, or a combination of these (internally), the availability of online features provided by sport governing bodies or on third-party websites. Also, while this study has examined the adoption and extent of usage of Internet platforms, it has not examined the extent to which they benefit club volunteers. Such a study could involve sport governing bodies as well as local sporting club volunteers.

All these studies could potentially lead to the development of strategies to further develop Internet use within local sporting clubs and support volunteers in their activities.

9 | CONCLUSION

Given the important contribution of local sporting clubs to the community, there is a lack of studies that examine how Internet-based applications are used by club volunteers. This study has made a step toward this understanding by examining the web presence of local sporting clubs in two sports, across two countries. The results suggest that local sporting clubs should not be treated as one homogeneous group with regard to their Internet adoption and use. Sport governing bodies may be able to play a positive role in the use of the Internet by smaller local sporting clubs by providing interventions (such as websites) that allow them to use online platforms, or to provide online platforms in regions where they are not widely available. The paper makes a theoretical contribution by extending Burgess' (2016) web presence pyramid model to map the web presence of local sporting clubs.

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ENDNOTE

[1] https://www.sportenglandclubmatters.com/club-mark/

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.