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Australian motor sport enthusiasts' leisure information behaviour

Pauline Joseph

Department of Information Studies, Curtin University, Perth, Australia

Abstract

Purpose – The purpose of this paper is to explore the leisure information behaviour of motor sport enthusiasts, examining: their information needs; their information seeking and sharing; what personal information they had; and their satisfaction with their information seeking and personal information management efforts.

Design/methodology/approach – This exploratory study examined participants' information behaviour from a postpositivist and inductive research approach. An online survey was completed by 81 motor sport enthusiasts. The quantitative survey data were analysed using descriptive statistics, whilst the qualitative data were analysed using thematic coding.

Findings – The research findings highlighted that enthusiasts engaged in mixed serious leisure. They required information before, during and after race events, and sought this primarily from online sources, as well as from other individuals. Totally, 90 participants shared information about their interest in motor sport with family, friends and fellow enthusiasts, primarily via e-mails (69 per cent) and Facebook (49 per cent). They also gathered information about motor sport, including photographs and memorabilia. Participants were satisfied with their information management strategies for their personal collections.

Research limitations/implications – Participants were limited to motor sport enthusiasts in Australia, hence findings cannot be generalised more broadly.

Practical implications – Understandings of enthusiasts' information behaviour provide information management professionals with insights to work with this user community.

Originality/value – This study fills a gap in the literature about leisure information behaviour of motor sport enthusiasts in Australia. It identifies and provides a typology of the 12 categories of information needed by enthusiasts. Provides a preliminary motor sport information behaviour model guided by the conceptual frameworks of the everyday life information seeking model; general models on information behaviour; and the information problem solving behaviour model.

Keywords Archives, Records management, Information needs, Information behaviour, Information seeking behaviour, Leisure information, Motor sport

Paper type Research paper

Introduction

The research reported in this paper is part of continuing research by the author into the information management challenges of community archives and its sustainability in Australia using the motor sport community as a case study (Joseph, 2015). First, this research investigated the information management practices at motor sport community-based organisational levels at the historic car clubs, and the national and state offices of the Confederation of Australian Motor Sport (CAMS) Ltd (Joseph (2016)). Second, it investigated what are the motor sport community's significant information assets (records and archives) (Joseph (2016)) including what information individual motor sport enthusiasts required from CAMS (Joseph (Peer Review)).

This paper reports on the third aspect of this continuing research which, explored the leisure information behaviour of motor sport enthusiasts via an online survey completed by both competitors and officials in motor sport in Australia. The primary



Journal of Documentation Vol. 72 No. 6, 2016 pp. 1078-1113 © Emerald Group Publishing Limited 0022-0418 DOI 10.1108/JD-12-2015-0150 aim of this research was to examine the information behaviour of motor sport enthusiasts in Australia: what are their information needs: what information sources they consulted to fulfil these needs; and what information sources they used to share their interest in motor sport with family and friends. This study also tiptoed to explore enthusiasts' personal information management (PIM): what personal information resources they had and in what media format they held their information.

Information behaviour research has begun to examine the extensive time, effort and resources individuals invest into their leisure activities, including information seeking, sharing and use (e.g. Case, 2010; Chang, 2009; Skov, 2013). These leisure or non-work activities, including those belonging to serious leisure pursuits (Stebbins, 2007), can be deeply informational in nature, and involve complex information behaviour, including the development and maintenance of information management systems (Hartel, 2006). This study adds to this expanding body of research by exploring the leisure information behaviour of motor sport enthusiasts in Australia. This topic was chosen not only because it represents a gap in the literature, but also because motor sport enthusiasts require complex information resources in order to carry out this leisure activity safely. Motor sport is an extremely popular leisure activity in Australia, one with over 150,000 participants (Confederation of Australian Motor Sport (CAMS) Limited, 2014, p. 10) and which generates over \$2.7 billion dollars in revenue annually (CAMS, 2014, p. 5).

As this research centres on the information behaviour of individual motor sport enthusiasts, it highlights their activities regarding information seeking, sharing and use, and therefore does not explore information seeking from the car as an information source, or draw from the body language of enthusiasts at race events. Additional research is underway on the information needs of enthusiasts building their own racing car, which will be the subject of a separate paper.

This paper begins with an introduction to the motor sport leisure activity. Then the literature is surveyed on three topics: Stebbins (2001, 2007) serious leisure activity; information behaviour in leisure or non-work-related activities; and work-related information behaviour theories and models. The conceptual frameworks for this research are guided by: Savolainen's (1995b) everyday life information seeking (ELIS) model; Wilson's (1984, 1999, 2000) and Krikelas' (1983) general models on information behaviour; and Dervin's (1976, 2005, 1992) information problem solving behaviour model. A primary theoretical contribution of this research is the preliminary motor sport information behaviour model.

The methodology section describes the design of the online survey, as well as the processes of data collection and analysis. This is followed by a presentation of the research findings and discussion of enthusiasts' information behaviour against the literature reviewed. The conclusion discusses the significance and limitations of the research, and identifies topics for future research.

Motor sport in Australia

Active participation in sporting and recreation activities as well as attending sporting events as spectators is an important part of the Australian lifestyle. Between 2011 and 2012, 65 per cent of Australians participated in sporting activities (Australian Bureau of Statistics, 2012, p. 11).

Motor sport is one of the top ten ranked sports for Australia in terms of total attendance, with approximately 1.5 million attendees annually, and is reported to be the fourth most watched sport in Australia (Australian Bureau of Statistics, 2012, p. 30).

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A 2013 survey commissioned by the regulator of motor sport in Australia, the Confederation of Australian Motor Sport Limited (hereon CAMS survey) reported that: 150,000 Australians participate in four-wheeled motor sport across Australia, of these participants: 55,339 are competitors only; 3,619 compete and officiate; 17,419 only officiate; and 76,775 are other club members (CAMS, 2014, p. 10). The CAMS survey also reported that in 2013 the Australian motor sport generated \$2.7 billion in revenue and 16,181 jobs (CAMS, 2014, p. 5).

Motor sport involves competition events "in which an automobile takes part and which [have] a competitive nature or [are] given a competitive nature by the publication of results" (CAMS, 2014, p. 6). The drivers are referred to as competitors and they are usually supported by a team of track and off track personnel such as: pit crew members, engineers, trades people, finance managers, sponsors, doctors and dieticians. Some team members are paid whilst others are volunteers. The competitors and pit crew team supporting the driver can be professionals or amateurs usually, depending on which level of racing they compete in. Motor sport, particularly motor racing, can be described using a metaphor of a pyramid of levels of participant involvement, as presented in Figure 1.

In motor racing the top of the pyramid is Formula One, commonly referred to as F1. It comprises 20-25 professional participants who drive the vehicles. The next level of race drivers are professional international drivers, approximately 2,000 of whom compete in events like the Le Mans, Indy Car and V8 Supercar series. The national level competitions have approximately 20,000 professional drivers. They compete in the approximately ten motor national racing (circuit) competitions held annually in Australia.

The fourth level down the pyramid – the focus of this research – is the state and club level amateur drivers (all disciplines) and amateur volunteers. According to CAMS (2014), "the Australian motor sport industry includes and supports: 334 tracks and venues; 1,391 clubs and 6,247 events" (p. 12).

The lower level of the pyramid comprises the fans, spectators and social participants of motor sport. Apart from the drivers/competitors in motor sport, there are "17,419 licenced volunteer officials in Australia who are responsible for running the majority of motor sport events" (CAMS, 2014, p. 2). The reliance on volunteers in various capacities for officiating, administering and promoting the sport

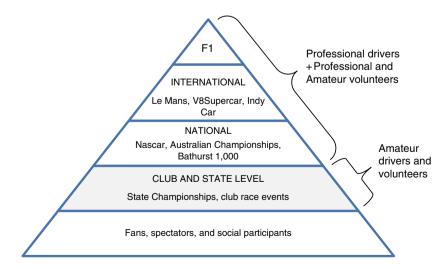


Figure 1.
Pyramid metaphor to describe motor racing internationally

is prevalent internationally. A proportion of the top-level officials in the sport are paid whilst the remainder are volunteers who do it for their love of the sport at their own cost, free time and free will.

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Land-based motor sport in Australia is predominantly governed under the jurisdiction of CAMS Ltd. CAMS is a "not-for-profit member-based organisation focused on the development, regulation and administration of motor sport across Australia" (The Confederation of Australian Motor Sport Limited, n.d.). In 2013, there were 460 car clubs affiliated to CAMS and they organised "4,311 events, with over half of these being non-competitive social events" (CAMS, 2014, p. 24).

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In summary, involvement in motor sport can be divided into professional, amateur and volunteer groups. The information behaviour of motor sport enthusiasts studied in this research pertains to participants who are amateurs and volunteers, and not professionals. The focus is on both the amateur drivers/competitors and amateur volunteers in various officiating and supporting roles in motor sport, at motor sport clubs and state levels, as shown in Figure 1. Here on, this subject group will be referred to in this paper as "motor sport enthusiasts" or "enthusiasts". Those who follow the sport as fans or spectators are not covered in this research. Further, this research is focused on the four-wheeled motor sport and not motor cycles but acknowledges that similarities apply to the motor cycles. The research participants in this study are competitors and/or volunteers at CAMS and/or its affiliated car clubs in Australia.

Literature review

This section outlines the literature on three relevant topics: leisure and serious leisure by Stebbins (2001, 2007); and information behaviour in leisure and non-leisure settings.

Motor sport from a serious leisure perspective

Sociologist Robert Stebbins (2007) defines leisure "as uncoerced activity engaged in during free time, which people want to do and, in either a satisfying or a fulfilling way (or both), use your abilities and resources to succeed at this" (p. 4). Stebbins (2007) categorises leisure into: casual; serious leisure and project-based leisure.

Serious leisure, in particular, is relevant to this study. This phenomenon is defined by Stebbins (2007, p. 5) as the:

[...] systematic pursuit of an amateur, hobbyist, or volunteer core activity that people find so substantial, interesting, and fulfilling that, in the typical case, they launch themselves on a (leisure) career centered on acquiring and expressing its special skills, knowledge, and experience.

According to Stebbins (2007), serious leisure involves three participant types: amateurs; hobbyists and volunteers, and has these distinguishing qualities:

- there is a need to persevere and find a leisure career;
- involves significant personal effort using acquired knowledge;
- requires training, experience or skill;
- has durable benefits plus a unique ethos that creates a spirit of community; and
- participants identify strongly with their chosen pursuits (pp. 11-12).

Amateur sports activities can constitute serious leisure: examples include research on runners (Major, 2001) and swimmers (Hastings and Cable, 2005). Motor sport meets the

above criteria of serious leisure, and participants use terms common in serious leisure such as "interesting", "stimulating" and "pleasant" to describe their involvement in the sport. Enthusiasts also participate in motor sport during their free time and out of their free will and choice, another feature of serious leisure participation (Stebbins, 2007).

In motor sport, the worlds of the professionals, amateurs and volunteers are interconnected, however, there are clear boundaries as Cox and Blake (2011, p. 206) point out:

[...] professionals set standards of performance that amateurs respect, professionals often train amateurs, while amateurs are often a key, critical audience for professionals. Amateurs perform for the same public as the professional, to a certain extent, as well as for a collegial audience of fellow practitioners (and friends and family).

Stebbins (2001, p. 5) describes volunteering as:

[...] a helping action of an individual that is valued by him or her, and yet is not aimed directly at material gain or mandated or coerced by others. Thus, in the broadest sense, volunteering is an uncoerced helping activity that is engaged in not primarily for financial gain and not by cohesion or mandated.

This section outlined the concept of serious leisure in relation to motor sport activities. The next section reviews existing research on information behaviour in leisure settings.

Information behaviour in leisure activities

Though a small but growing body of research documents information seeking, sharing and use in serious leisure activities, there has so far been no research on the information behaviour of motor sport enthusiasts. Existing research on information in leisure settings has examined the following: leisure reading (Ross, 1999); genealogy and family history (Fulton, 2009; Yakel, 2004); gourmet cooking (Hartel, 2006, 2010); knitting (Prigoda and McKenzie, 2007); photography (Cox et al., 2008); backpackers (Chang, 2009); rubber ducks collection (Lee and Trace, 2009); online museum visitors (Skov, 2013); quilting (Gainor, 2009); coin collection (Case, 2010); food blogging (Cox and Blake, 2011); and music records collectors (Margree et al., 2014). Table I summarises the literature review in leisure activities: identifies researchers in the discipline (Column 1); identifies the type of leisure activity they researched (Column 2); uses Stebbins participant types (amateur, hobbyist and volunteer) in serious leisure to categorise participants (Column 3); provides a snapshot of the research aims (Column 4); and the research methodologies employed (Columns 5-8).

In the literature reviewed, the majority of studies refer to participants as hobbyists (e.g. Yakel, 2004), while only two refer to their activities as those of amateurs – Cox *et al.*'s (2008) research on photography, and Fulton's (2009) study on genealogy.

Some of these studies included aspects of information management in their findings (e.g. Cox and Blake, 2011; Hartel, 2010; Yakel, 2004), for instance by documenting what personal information participants had and in what formats. None of this research, however, measured whether or not participants' needs around information management were being met, whether they needed assistance, or whether they were satisfied with their current information management strategies. This study aims to fill this gap as well with respect to the information behaviour and management of motor sport leisure enthusiasts.

Whilst surveying the literature on information seeking behaviour in leisure activities it was observed that the seminal literature in work-related or non-leisure information seeking behaviour was referenced considerably, hence it was reviewed next.

Research methodology Sample

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Location	Canada	USA	USA	Canada	UK	Taiwan	Global	USA and Europe	Denmark	(continued)
lology Sample size	194	23	20	essions ion had asted	11	89	24	13	150)
Research methodology Samp Method size	Interviews	Semi-structured hour long inferviews	Semi-structured hour long interviews		interviews with 12 knitters Open-ended 30-40 minutes telephone interviews			Semi-structured 30 minutes to hour long interviews	Web questionnaire survey (130) and interviews with 20 participants	
Research aim/s	To find out how readers choose books to read for pleasure	what are the information seeking patterns of genealogists and how do they manage their research information?	Studied 2 information phenomena: information activities and sources	To "apply a collectivist theoretical framework to the study of human information behaviour and the construction of meaning in a knitting group" (p. 90)	An examination of user behaviour of amateur photographers on Flickr	Explore how backpackers collect and search for information to plan their travel experiences	Investigated the "positive affect and the significant place of pleasure in amateur genealogists' information seeking and skills development" (Fulton, 2009, p. 246)	Explore dimensions of collecting, develop a typology of collectors; and model of information needs of this collector community	How can online museum visitors be categorised within Stebbins's taxonomy of classes of serious leisure pursuit? What characterises the information behaviour of online museum visitors?	
Serious leisure (Stebbins, 1992, 1994, 2001, 2007)	Hobbyist	Hobbyist	Hobbyist	Hobbyist	Amateur	Hobbyist	Amateur	Hobbyist	Hobbyist	
Leisure activity	Leisure	Genealogy	Gourmet cooking	Knitting	Photography Amateur	Backpackers Hobbyist	Genealogy	Rubber ducks collection	Online museum visitors	
Source	Ross (1999) Leisure	Yakel (2004)	Hartel Gourme (2003, 2005, cooking 2006, 2010)	McKenzie (2007)	Cox et al. (2008)	Chang (2009)	Fulton (2009)	Lee and Trace (2009)	Skov (2009, Online 2013) museur visitors	

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Table I. Summary of literature review on information seeking behaviour in leisure activities

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Source	Leisure activity	Serious leisure (Stebbins, 1992, 1994, 2001, 2007) Research aim/s	Research aim/s	Research methodology Sample Size	logy ample size Location
Gainor (2009)	Quilting	Hobbyist	An examination "of hobby quilting Web sites and blogs, asking how creativity, virtual community, and expressed motivations are involved in creation of information resources" (Gainor. 2009, p. 1)	Reviewed 25 public domain websites Global (?)	Global (?)
Case (2010) Coin collec	Coin collection	Hobbyist	Explore collecting as serious leisure using coin collecting as Moderate participant observation of USA an example coin collectors in 7 action scenes, about 1 100 collectors	Moderate participant observation of 1 coin collectors in 7 action scenes, about 1 100 collectors	USA
Cox and Food Blake blogging	Food blogging	Hobbyist	Explore creating, seeking, sharing and personal information In-depth hour long management interviews	9	UK
Margree et al. (2014)	Music record collectors	l Hobbyist	Exploration of the information behaviour of music record In-depth semi-structured collectors	∞	UK

Table I.

Given the research focus on the information behaviour of motor sport enthusiasts, it is necessary to review the allied literature that examines information behaviour, information needs and information seeking theories and models (Case, 2002, 2012; Fisher *et al.*, 2005). As a first step, definitions of the key terminology in this discipline are reviewed and its adoption for the research is clarified.

The author agrees with Cole that "information need is the motivation people think and feel to seek information" (Cole, 2012, p. 3). Also that information need is the "state of uncertainty recognised by the individual user" (Henefer and Fulton, 2005, p. 226). Wersig (1979, 1985) describes this as the problematic situation. Belkin expands on the description of this problematic situation as the Anomalous State of Knowledge, which he describes as an inadequacy in the user's state of knowledge with respect to a problem or task that prevents them from resolving the problem or task at hand (Belkin, 1980; Belkin *et al.*, 1982). This inadequacy in the user's state of knowledge is identified as the gap (Dervin, 1992; Dervin and Foreman-Wernet, 2003). In her "sense-making" theory Dervin defines an information gap to a state in which a person perceives a gap in their existing knowledge structure in order to make sense of the situation, problem or task at hand (Dervin, 1992; Dervin and Foreman-Wernet, 2003). Wilson's (2005) models emphasise what drives the information need of a user, which segues to the subsequent topic on information seeking behaviour.

Ellis defines information seeking behaviour as the "complex patterns of actions and interactions that people engage in when seeking information of whatever kind for whatever purpose" (Ellis, 2003).

Information seeking behaviour models describe the process stages and/or the activities performed at each stage in a manual and/or in an electronic system setting. Examples of research in this setting include the work by (Ellis, 1984, 1989, 1993, 2003; Kuhlthau, 1988, 1993, 1999, 2004, 2005). They do not describe the users' interactions with the system. In contrast information search or information retrieval behaviour refers to the users' interaction with an electronic system to seek/search/look for their information. Information search and retrieval behaviour usually includes information search processes (Bates, 1979, 1984, 1989; Debowski, 1997; Ingwersen, 1982, 1992, 1996, 2001, 2005; Joseph, 2010; Maclean and Shipman, 2003; Marchionini, 1995, 2008; Marchionini and White, 2007; Saracevic, 1997; Spink and Saracevic, 1997). This research is focused on the user-related and not the system-related information seeking behaviour, as the aim is to explore motor sport enthusiasts' current information behaviour. It is acknowledged that enthusiasts would use electronic systems to seek and search for information to fulfil their information needs. However, the objective is to find out what are these system sources and understand what types of information are sought, but not how they interact to search and retrieve information from these sources. As such, this research is focused on how the enthusiasts' environmental setting in the motor sport recreational context influences their information needs and what information sources they sought to fulfil their information needs.

Given the user-centred approach that this research aims to embark on, it is posited in the wider information behaviour and information need subject disciplines. Consequently, the general and seminal information behaviour models by Dervin (1992), Krikelas (1983) and Wilson (1984, 1999, 2000) were selected to provide a conceptual framework for this research as it offers a methodology to study the problems with information needs and seeking from the users' perspective.

Wilson's (1984, 1999, 2000) and Krikelas' (1983) models are described as general models on information behaviour (Case, 2005; Fisher *et al.*, 2005). Wilson's (1984, 1999, 2000)

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models emphasise the context of information seeking: for instance, what drives the information need of a user?, whilst Krikelas' states that "information seeking is a response to what the individual perceives as an immediate need" (Henefer and Fulton, 2005, p. 226). Krikelas (1983) identifies three activities as foundations of his information behaviour model: information gathering, information giving and information seeking. Dervin's sense-making methodology metaphorically presents how people in their everyday life make sense of their world in different situations in a space – time continuum (Dervin, 1976, 2005, 1992; Dervin and Foreman-Wernet, 2003). They acknowledge their information need, subsequent gap in their knowledge and make efforts to bridge this gap by seeking for information using information sources available to them (Dervin, 2005, 1992; Dervin and Foreman-Wernet, 2003; Savolainen, 1995b). Savolainen (1995b) provides a good overview of Dervin's sense-making theory, which is referred to in his ELIS behaviour model reviewed next.

Savolainen's (1995b, p. 268) ELIS model was reviewed to assess its applicability to this research. Savolainen (1995b, p. 270) interviewed 22 people from Tampere a Finish town, from two social classes (11 industrial workers and 11 middle class teachers) to develop the ELIS model. The ELIS model examined how an individual's social and cultural circumstances influenced their way of life (order of things) and their mastery of life (keeping things in order) (Savolainen, 1995b). In lay man's terms, the ELIS model posits that an individual's social, cultural, financial circumstances including their values and situations in life, affect their way of life in terms of how much time and money they spend on their work and importantly in their leisure activities. It also affects how they order their life so that they are positioned to manage their lifestyle and be able to address problems and problematic situations in life (mastery of life). Savolainen (1995b, p. 268) identified four types of problem solving behaviours for addressing everyday life information seeking problems: optimistic-cognitive; pessimistic-cognitive; defensive-affective and pessimistic-affective.

The ELIS model has been referenced in other leisure information seeking behaviour settings like recreation, leisure and collecting activities: coin collection (Case, 2010); gourmet cooking (Hartel, 2006, 2010); genealogy and family history (Yakel, 2004); online museum visitors (Skov, 2013); pleasure readers (Ross, 1999); and music record collectors (Margree *et al.*, 2014).

In the current research, the motor sport enthusiasts' decision to be involved in this sporting and recreation activity is a given. Hence, it can be assumed that their social, cultural, financial, values and situation in life support their involvement in motor sport. What is unknown is about their information needs and what information sources they use to fulfil those needs. Further, what information resources they have; in what format they hold their information; and importantly if they need help with their PIM. We also know little about how they share information about their sport with family and friends or what information sources are used for such activities.

In summary, the theoretical concepts and conceptual framework of this research are guided by: Savolainen's (1995b, p. 268) ELIS model; Wilson's (1984, 1999, 2000) and Krikelas'(1983) general models on information behaviour; and Dervin's information problem solving behaviour model (Dervin, 1976, 2005, 1992; Dervin and Foreman-Wernet, 2003).

Although, PIM activities like acquire, organise, maintain, retrieval, use and control are entwined with these theoretical concepts; it is not the foci of this research (Jones and Teevan, 2007). Hence, the omissions of this literature review in this paper.

Research questions and methodology

The primary research question of this study is to explore:

RQ1. What is the leisure information behaviour of motor sport enthusiasts?

The following six secondary questions were developed to explore answers to the primary question:

- (1) What are the information needs of individual motor sport enthusiasts?
- (2) How they seek this information?
- (3) What information sources they turn to?
- (4) How they share their information?
- (5) What personal information about their leisure activity do they have?
- (6) What are their overall satisfaction levels about their information seeking and management efforts?

Generally scholars researching information behaviour employ interviews, participant observation and online surveys. Most popular was the use of in-depth semi-structured interview techniques (Brine and Feather, 2010; Chang, 2009; Cox and Blake, 2011; Cox et al., 2008; Fulton, 2009; Gainor, 2009; Hartel, 2006, 2010; Lee and Trace, 2009; Margree et al., 2014; Prigoda and McKenzie, 2007; Ross, 1999; Yakel, 2004). Participant observation was done in the coin collection (Case, 2010) and knitting (Prigoda and McKenzie, 2007) serious leisure activities. Online surveys were used in the online museum visitors (Skov, 2013) research only.

An exploratory study was chosen as little is known about the leisure information behaviour situation of motor sport enthusiasts. There is currently no research on enthusiast's information needs, problems and/or successes, or what information assets they gather, share or manage.

A postpositivist and inductive qualitative research approach using empirical elements from the motor sport community was employed (Creswell, 2013, p. 24).

Survey design

To reach the broadest possible sample of respondents within the motor sport community in Australia, an online survey research tool was chosen for this study. The survey was designed using the Qualtrics software and included both quantitative and qualitative questions; this was done to ensure that qualitative data could help to explore issues that cannot be quantified (Gorman and Clayton, 2005, p. 14).

The researcher's involvement in motor sport over the past three years as a volunteer scrutiny clerk offered insight into the information behaviour of enthusiasts, and therefore supported the development of the survey tool used in this research. Feedback on the survey's design was collected through interviews with a key informant with over 40 years of involvement in motor sport, and from 12 pilot participants who completed the draft survey. Based on this input, changes and refinements to the tool were made. Final piloting of the completed survey took place at race events held in Melbourne in March 2014: eight participants took part at this stage and their responses are included in the final data set. Based on this second pilot, it was decided that data collection would best be conducted online instead of in person at race events, due to the distracting and loud nature of these environments.

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The survey consisted of 33 questions, separated into five groups, as noted in Table II.

This paper reports on the survey questions 1-20 only found in Appendix.. The remaining questions 21-33 are subject of another paper (Joseph, P. (Peer Review)).

Data collection

Following ethics approval for this study, a link to the online survey from Qualtrics was advertised electronically to promote participation by enthusiasts. A link to the survey was distributed in a CAMS press release using the following media:

- (1) the CAMS website;
- (2) a tweet on the CAMS Twitter page;
- (3) the CAMS online magazine:
- (4) Facebook, including:
 - the CAMS Facebook site:
 - a Facebook site set up for this research, entitled Australian Motor Sport History Archives – AMSHA; and
 - the Facebook sites of various car clubs in Australia.
- (5) motor sport forums:
 - Autosport The Nostalgia Forum (TNF); and
 - Speedwest forum hosted in WA.

A month and half from 15 March to 30 April 2014 was allowed for participation in the survey. A total of 120 people started the survey and 81 (67.5 per cent) completed the survey with an attrition rate of 39 (32.5 per cent).

The attrition rate could be attributable to participants' survey fatigue; loss of interest; and/or failure to complete the survey within the timeline. This varied the response rate for some questions. A further reason for this variance could be attributable to the survey design, whereby questions incorporating filters and contingencies were skipped, depending upon an individual's response.

Data analysis

An inductive data analysis approach was adopted for both the quantitative and qualitative survey data. Descriptive statistical analysis was generated using the Qualtrics software, which was most useful for reporting on the percentages for the multiple choice answers. The Nvivo analytical software was used to code and analyse the qualitative data for Q16 only. Content analysis was initially used to analyse

		Survey segments	Questions
	1. 2.	About you (demographic information) Your information needs and seeking behaviour	1-11 12-16
Table II. Structure of online survey questions	3. 4. 5.	Personal information management Your information needs from CAMS Scenario of CAMS providing a central repository	17-20 21-29 30-33

T St the textual responses for Q16, which were subsequently coded against the 16 topics developed by the researcher. Given the key informant's motor sport experience, he was tasked with verifying the researcher's coding against the 16 topics.

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The informant's input led to suggestions to aggregating some of the initial subtopics into higher level topics. The final 12 topics against which the data were coded are listed in Column 2, Table VIII.

The remaining text-based questions were analysed manually as they contained limited information and did not require detailed coding. Both content analysis followed by thematic analysis was used to analyse the remaining textual data (Braun and Clarke, 2006).

Findings

The findings for questions 1-20 are reported here in three segments: participants' demographic data; their information needs and seeking behaviour; and what personal information about the sport they had. This section presents the raw data about the findings, while the discussion of these findings is presented later under the discussion section.

Demographic data about the motor sport enthusiasts

Totally, 120 participants started the online survey; 109 males and 11 females. The largest group was aged between 60 and 69 years old (32 per cent), followed by 50-59 years old (21 per cent). Totally, 87 (73 per cent) were motor sport competitors whilst 33 (28 per cent) were not and were likely volunteers who performed the role of officials for the sport.

The 74 participants who identified themselves as motor sport competitor were from all nine disciplines of motor sport as shown in Table III.

The two largest disciplines in this survey match those found in a survey by CAMS. According to the CAMS survey, "Circuit and Speed are the two largest motor sport disciplines in Australia, in terms of participation, direct output, value add and employment. Collectively, these two disciplines account for over 60% of Australian motor sport industry output" (CAMS, 2014, p. 14).

Totally, 104 participants categorised their involvement in motor sport as volunteers, spectators and as club committee members, as presented in Table IV.

The volunteers performed the roles of officials as indicated in the first row of Table IV but also other roles such as: pit crew; track preparation; conduct of the events like the hill climb; race commentary; road closure; and event organisation.

The option of being involved as a competitor was omitted in Q7 as this question was asked in Q4 Are you or were you a motor sport competitor? However, a dozen responses in the specify other involvement for Q7 were as competitors.

It was observed that the enthusiasts were often involved in their sport in more than one role. Usually, the competitors also volunteered to perform other officiating roles such

Answer	Response n=74	%
Speed	37	50
Race (circuit)	29	39
Rally	29	39
Social	25	34
Historic groups	22	30
Regularity/trial	20	27
Auto-test	15	20
Off-road	8	11

Table III. Q5 Which motor sport discipline do you compete in? Tick as many of the options below that apply JDOC 72.6

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as scrutineer, flag marshal, pace car driver and in other roles at the race event. However, the decision on the role assumed at the race event by an individual is made prior to the event to ensure conflict of interest and roles are omitted. Hence, if the enthusiast is competing, they will not officiate at that race event. Stebbins (2007, p. 34) describes this phenomenon of assuming multiple roles in the same leisure as mixed serious leisure:

This involvement in two or more types or subtypes of serious leisure that, together constitute for the participant an integrated pursuit of a more encompassing free-time activity than either of the two pursued alone.

Totally, 61 participants (59 per cent) have had an interest in motor sport for more than 30 years. The majority reported they developed an interest in motor sport during their early childhood.

They were mostly introduced to motor sport by family and friends. Often a close relative, such as a father was a motor sport enthusiast, and a common thread was attending motor sport events with family and friends. Reading about motor sport and watching television further enhanced their interest. The following quotes illustrate how the respondents developed their interest in motor sport:

Early childhood, built my first race car called Norton Special.

My father took me to a meeting in Tasmania in 1961 and I saw Jack Brabham driving the Cooper Climax and that started my interest in motor sport.

Parents were both competitors in motorsport when I was growing up. My uncle got me involved in volunteering.

My parents took me along to the Showground Speedway many times as a lad, and later to many circuit races at Oran Park. This sparked a lifelong interest and I attended meetings at Warwick Farm, Amaroo, Oran Park etc. Became a motor sport official when a friend invited me to help out in the tower at Amaroo in the 1990s.

My brother introduced me to pit crewing and from there I took an interest also in officiating.

I was just attracted to the colour, action and noise when visiting a local speedway when I was a small child - it grew from there.

In summary, these findings align with a CAMS survey that reported "80% of people surveyed said 'being with family and friends' is an important reason why they are involved" in motor sport (CAMS, 2014, p. 3). This is also the rationale provided by other sociologists (Dannefer, 1980, 1981; Stebbins, 2007) on how and why leisure activities are pursued.

Answer	Response $n=104$	%
Volunteer for motor sport in the capacity of a scrutineer, clerk of course, steward of a meeting, flag marshal or any other official's role on the day of the race meeting event	68	65
Spectator of motor sport	66	63
Committee member for your sporting car club/s or CAMS	47	45
Volunteer in other ways, please specify	25	24
Other, please specify	24	23
Spouse, partner, family, friend of a motor sport competitor	23	22
Historian researching about motor sport	14	13

Table IV. Q7 What is/are/were your involvement with motor sport?

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Totally, 33 participants (32 per cent) stated that they spend between 10 and 50 hours in a week engaged with motor sport activities. Though participants indicated that motor sport involves a large commitment of time and money in their lives, they appear quite satisfied with both: over 90 per cent of respondents were either "very satisfied" or "satisfied" with their time investment in motor sport, while over 75 per cent were "very satisfied" or "satisfied" with the way they spent their money in the sport (see Figure 2). Investing heavily in motor sport is not unusual, as a survey by CAMS found: "on average, motor sport competitors spend between \$12,000 and \$15,000 a year on motor sport activities and \$60,000 on motor sport vehicle purchases and initial modifications" (CAMS, 2014, p. 4).

Participants were also generally satisfied with the membership services they received from their various motor clubs, as shown in Figure 2; over half noted that they were either "very satisfied" or "satisfied".

Information needs and seeking behaviour

This section of five questions aimed to investigate enthusiasts' information needs and their information behaviour.

Table V presents the information needs of enthusiasts, ranked by their highest information need.

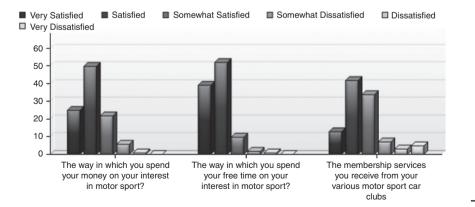
The top three information needs of motor sport enthusiasts occur before the race event and are: what are the upcoming competitions (80 per cent), competition-related information (69 per cent) and the technical information (64 per cent) they require getting their cars ready for the event.

The "other" information needs that were reported under the last option in Table V have been merged with the responses for Q16 and are reported later under Q16.

Table VI presents the information sources that were rated highly by enthusiasts to keep themselves informed and updated about motor sport.

The top five methods and information sources used by enthusiasts to keep themselves informed were by using: print and traditional media sources (including radio, television, newspapers, magazines and books); human sources; event organisers; social media tools; and web sources.

In Q14, ninety participants stated that they share information about their interest in motor sport with family, friends and fellow motor sport enthusiasts. Subsequently, in Q15 presented in Table VII, 69 participants (77 per cent) stated that they share this



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Figure 2.
Q11 Please rate
your satisfaction
level for each of the
following regarding
your interest in
motor sport

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Table V. Q12 What information needs related to your interest in motor sport do you have? Tick as many of the options below

Table VI.
Q13 Generally how
and what
information sources
do you use to find
the information you
need for your
interest in motor
sport? Tick as many
of the options below

Table VII.Q15 how do you share information about your interest in motor sport with family, friends and fellow motor sport enthusiasts?

Answer	Response	%
What are the conserving account tions and the colors are	(n = 100)	
What are the upcoming competitions – what, where, when,	90	90
format (hill climb, regularity, race, sprint, etc.) so that I can	80	80
consider registering for the event		
Competition information – regulations, scrutineering, when,		
where and time for my drivers' briefings, safety highlights,	69	69
race results		
Technical information – to fix, maintain, repair, restore,	64	64
upgrade and/or modify the car	04	04
Logistics information – travel arrangements to venues,	47	47
organise transport and accommodation	4/	4/
Registration information for competitions – how to register,	46	16
what registration forms need to be completed	46	46
Social events – social events organised by my club or CAMS		
that is of interest to me and my family and friends?	44	44
About the course itself – about and how the course venue is	4.0	4.0
arranged, e.g. video clips	40	40
Other, please specify	17	17

Answer	Response (n=100)	%
Keep up with what is going on by reading, watching and listening about motor sport in the traditional information sources like: newspapers; radio; television; magazines and books	68	68
Contact fellow motoring enthusiasts by e-mail, phone, text messages, in person	61	61
Contact the event organisers for competitions by e-mail, phone, text messages, in person	59	59
Subscribe and use social media tools like: blogs; Facebook sites; Flickr; Pinterest; Instagram, etc.	58	58
Read relevant information from the websites; Wikipedia; YouTube, etc.;	57	57
Contact my motoring club by e-mail, phone, text messages, in person	45	45
Use the online motor sport forums to post my question and get answers from there	44	44
Contact the CAMS by e-mail, phone, in person	41	41
Contact family and friends by e-mail, phone, text messages, in person	38	38
View trade catalogues relevant to my car	19	19
Other, please specify	6	6

Answer		Response $(n=90)$	%
E-mail		69	77
Facebook		49	54
Text or SMS		42	47
Other, please specify		33	37
YouTube		11	12
My own website		8	9
Instagram		6	7
Pinterest		3	3
Flickr		2	2

information by e-mail; 49 participants (54 per cent) via Facebook; and 42 participants (47 per cent) use SMS text messages to share this information.

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In the other, please specify option on Table VII, fourth row, participants stated that they share their interest in their sport by: talking about it via face-to-face chats, phone, online forums and tweeting, predominantly. Few also publish articles about the race events, broadcast on the television and on websites they manage as webmasters.

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Question 16 asked enthusiasts: (Q16.1) to describe what were the last three information needs they had; (Q16.2) which information sources they checked to fulfil this need; and (Q16.3) to rate their satisfaction levels when fulfilling these needs.

The data for the first two parts of Q16 were textual, hence inductive analysis was employed using the Nvivo software to group the data into information themes from which topics for each information theme were developed. Whilst initially coding the data, it was observed that the emerging themes frequently matched with the seven information needs topics developed and stated in Q12 (see Table V, Column 1), and presented as follows:

- (1) technical information;
- (2) what are the upcoming competitions;
- (3) registration information for competitions;
- (4) about the course itself;
- (5) logistics information;
- (6) competition information; and
- social events.

Hence, it was decided to reuse these topics where applicable but expand on the description for each topic from the new data. Five new topics were identified:

- (8) officials' information;
- (9) general information:
- (10) historical information about motor sport;
- (11) meeting dates for CAMS or clubs; and
- (12) event organisation.

In total, the information needs reported in Q16 were categorised into these 12 topics. A new node in Nvivo was created for each topic. Table VIII lists each topic with a detailed description and ranked by the topic with the most references.

In the second part of Q16 (Q16.2), participants were asked to state the information sources they checked or used to find the information they needed. Again, these textual data were exported from the Qualtrics software into the Nvivo software for qualitative analysis. Once again, during the data analysis it was observed that the information sources stated in Q13 matched most of the responses. Hence, nodes for each of these 15 themes were developed in Nvivo and were used to code and categorise the information sources, as presented in Table IX.

In the final part of Q16 (Q16.3), participants were asked to rate their satisfaction level when fulfilling their information need. Totally, 92 participants responded to this question and generally they were satisfied in fulfilling their information needs.

JDOC 72.6	Information needs	Description
1094	1. Competition information	Information relating to on track activities – regulations, scrutineering, when, where and time for my drivers' briefings safety highlights, race results, licence, vehicle log book, visa, insurance. Who is competing, what are the regulations, race results, about pits at the events, eligibility for the categories,
100-1	2. Officials' information	apparel for the event, etc. Information needed by volunteers performing various
	3. About future race events	officiating roles in motor sport Calendar – what, where, when, format (hill climb, regularity, race, sprint, etc.) about upcoming events so that I can conside registering for the event. Everything about the event, when, where, what time, for competitors, officials, volunteers, spectators, etc. How much the tickets cost?
	Registration information for competitions	Competitor and vehicle documentation – how to register, what registration forms need to be completed
	5. Technical information6. Current and historical information about motor sport	To fix, maintain, repair, restore, upgrade, and modify the car Information sources and content regarding the sport – currer and historic information about the motor sport, library
	7. Logistics information	materials, newsletters, etc. Travel arrangements to venues, organise transport and accommodation
	General information about motor sport	News-type information such as the need to identify and research a current topic such as why Daniel Ricciado was disqualified in his first Grand Prix event in Australia; or general information about when motor sport events will be telecast, and other racing news, etc.
	9. Meeting dates for CAMS or Clubs10. About the course itself	Agendas, minutes, timetabling, and scheduling Physical attributes of the circuit—about and how the course venue is arranged, e.g. video clips. What is the weather at th course on race day?
Table VIII.	11. Event organisation	Promoter – information that is required to organise race event or social events by event organisers
Topics of enthusiasts' information needs	12. Social events	Information relating to non-competitive activities – social events organised by my club or CAMS that is of interest to m and my family and friends

PIM

The aim of this set of questions was to find out what personal information about motor sport individual enthusiasts collected or had at home, in what format these contents were, if they were satisfied with how they are currently managing this information, and lastly if they would like assistance managing this collection.

Table X presents the responses to the Q17, what information about motor sport do you have at home?

The four top responses regarding participants' personal information about motor sport at home included photos, club newsletters, trophies and memorabilia and competition results. Under the category of other, participants specified that these resources included: race programmes, library materials (books, videos, DVDs, magazines), photocopies of newspaper clippings of motor sport events, officials' information and information about past events (maps, routes, regulations).

These collections include the following types of records:

 permanent value archival records (photographs, trophies, memorabilia, specifications about their cars, certificates of awards);

- records of temporary short-term value (competition registrations, race results); and
- records that are ephemeral (copies of originals hopefully held at their car clubs, CAMS
 or by cultural institutions; library materials, magazines, maps, race programmes).

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The media and format of these personal information resources are mostly held in a combination of paper and electronic formats (65 per cent), whilst 21 per cent is in electronic format and 13 per cent is paper based.

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The enthusiasts reported that they were generally satisfied (47 per cent) with their management of personal information about their interest in motor sport at home, whilst 8 per cent indicated they were "Somewhat Dissatisfied" and 0.4 per cent were "Dissatisfied". Also in Q20, 63 per cent responded that they do not require advice or assistance managing their personal information assets.

	Information sources	Frequency	
1.	Club magazines, newsletters and bulletins	13	
2.	E-mail	14	
3.	Event organiser	3	
4.	People contact	11	
5.	Text or SMS	1	
Web sources			
6.	Internet	47	
7.	CAMS website	37	
8.	Club or category website	26	
9.	Online trade catalogues	2	
10.	Online forums	1	
11.	My own website or racing team's website	1	
Social media			
12.	Facebook	5	Table IX.
13.	Flickr	1	Categorisation
14.	Instagram	1	of enthusiasts'
15.	Twitter	1	information sources

Answer	Response (n=91)	%
Photos about cars, events I attended, etc.	78	86
Club specific information like club newsletters, minutes of meetings, etc.	69	76
Trophies and other memorabilia	65	71
Competition results	60	66
Specifications for cars	60	66
Certificate of awards for my motor sport achievements and contributions to motor sport	58	64
Posters on motor sport	57	63
Club records and archives in my role as a committee member or volunteer to assist the club with organising a race event	32	35
Registrations for competitions	28	31
Other, please specify	25	27

Table X. Q17 What information about motor sport do you have at home? JDOC 72,6

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Discussion

The objectives of this research were to explore the information behaviour of motor sport enthusiasts. Findings on the information behaviour of motor sport enthusiasts led to the development of the preliminary motor sport information behaviour model presented in Figure 3. An explanation and discussion of this model derived from the seminal theoretical models by Wilson (1984, 1999, 2000), Krikelas (1983), Dervin (1992) and Savolainen (1995a, b, c) is presented next.

*values, attitudes *material capital *social capital *current (meanings) (money, etc.) (contact networks, etc.) situation of life (e.g. health) WAY OF MOTOR SPORT LIFE MOTOR SPORT INFORMATION ENVIRONMENT Photos, club information, memorabilia, competition Information Gathering results, specifications for cars, certificates and awards, posters, registration for events Motor Sport Via emails, Facebook, text Information Sharing Enthusiasts or SMS, YouTube, personal websites, Instagram, Pinterest, Flickr Information Information Need Information Sources Seeking Behaviour Competition Club publications Officials Information **PROBLEM** Gap SOLVING Future events **Emails BEHAVIOUR** Registration for events Event organiser **Technical** People contacts Historical

Figure 3.
Preliminary motor sport information behaviour model

Parallels can be drawn from the four factors that Savolainen (1995a, b, c) identified as affecting peoples' everyday life information seeking behaviour in the ELIS model. In this study, it can assist in explaining how people select motor sport as their hobby and therefore their information seeking behaviour. Each of these parallel factors as it relates to motor sport is explained next. Enthusiasts are comfortable with the values and attitudes on how the sport operates, its impact on the environment and the personal risk racing entails. Motor sport as a hobby requires investment in capital and money to buy, hire, maintain, store, repair, register the car and participate in events, travelling to participate in race events outside the county, etc. Social networks such as family and friends involvement in motor sport also have an influence in developing one's interest in motor sport, as indicated in the survey. One's current situation in life like their health affects their participation in motor sport. Enthusiasts are required to pass rigorous medical test annually to be eligible for renewing their CAMS licence to participate in motor sport. These factors affect those who decide to take up motor sport as a hobby, thereby impacting on how they spend their time and money.

The motor sport leisure activity environment is the context that triggers the information behaviour for motor sport-related information for enthusiasts. It is in this environment enthusiasts gather, share and seek information. It is also the context of information seeking that Wilson's (1984, 1999, 2000) models emphasise; "what drives the information need of a user?" Enthusiasts' interest and involvement in motor sport drives their information needs about their cars and the events they participate in.

Within this context of the motor sport information environment, enthusiasts were observed engaging in three activities: information gathering, information sharing and information seeking. These activities are described as foundations of Krikelas' information behaviour model (Krikelas, 1983).

The survey data indicated that enthusiasts gathered information about motor sport such as photographs, club information and memorabilia, listed in Figure 3. Some of this information is likely to be copies of ephemeral value and the original is hopefully maintained by their clubs like minutes of club meetings or club newsletters. However, their collection of photos, memorabilia and certificates are likely to be originals and are records of archival value. Future research about their personal information collection and an appraisal exercise of the contents needs to be undertaken to categorise it as records of ephemeral, temporary and permanent archival value. Also, future research, on how enthusiasts managed their personal information is required, these findings need to be incorporated into the preliminary motor sport information behaviour model.

They also shared their information primarily via e-mails (69 per cent) and via Facebook (49 per cent). Although, the survey did not ask details about what information they shared, it is reported from the author's involvement in motor sport that enthusiasts uploaded photos and comments about their performance, opinions and interesting happenings about the race events on their personal websites, Flickr, Facebook, YouTube, via text messages and e-mails. Photos were used primarily compared to words when updating family and friends. Race film footage from their GoPro cameras are uploaded on social media websites like Facebook and YouTube to share and report racing experiences, especially when there are accidents.

Lastly, enthusiasts needed information about their sport, which created their information need. Krikelas' states that "information seeking is a response to what the individual perceives as an immediate need" (Henefer and Fulton, 2005, p. 226). Enthusiasts' information needs are identified in Table VIII. There is a strong need for

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information relating to the race event for both the competitors and volunteers of the sport. Both groups want to know everything about the event: when, where, what time and what format? Next, these groups have a need for logistics information about how to get to the venue, travel and accommodation-related information. Once at the race event their information needs varies. Officials need information related to their officiating roles. Whilst competitors require competition information about the track and weather conditions, when and where are their driver's briefings and scrutineering inspections, times for their individual their race events and about their race results. The need for technical information by competitors ranked 2nd after event information. Competitors needed technical information to fix, maintain, repair, restore, upgrade and modify their cars or their team's car. In sum, the findings indicated that enthusiats' tasks triggers their information need and search behaviour (Bystrom, 2005; Bystrom and Hansen, 2005; Bystrom and Jarvelin, 1995; Vakkari, 1999, 2003). Hence, their information need varies according to their tasks or problem solving needs. The importance of task driving the information need in leisure pursuits was noted in the leisure of backpackers (Chang, 2009), as well. However, this notion of task was not identified by other scholars researching leisure information seeking behaviour (Case, 2010; Cox and Blake, 2011; Hartel, 2006; Lee and Trace, 2009; Yakel, 2004).

Dervin's sense-making methodology was also observed in enthusiasts' information need, the subsequent gap in their knowledge and their efforts to bridge this gap by seeking information using information sources available to them (Dervin, 2005, 1992; Dervin and Foreman-Wernet, 2003; Savolainen, 1995b). Savolainen describes these activities in Dervin's sense-making methodology as the problem solving behaviour in his ELIS model, as shown in Figure 3.

Summary

In summary, the findings raised awareness that enthusiasts required information at three different stages of their motor sport leisure activity: before, during and after their race events. It was observed that greater information is required before the race event as there is a need find out when and where the upcoming race events are; what is the format of the race event (speed, regularity, etc.); how to register for the event; what are the social events organised (when, where, what); and the logistics of getting themselves, family, pit crew and their competition car to the event. Then there are the technical information required for the race event: what are the race regulations and technical specifications that need to be adhered; is the car mechanically ready for racing; does it meet the scrutineering standards; when and where can the car be scrutineered; and is the car safe for racing. Again, some of this information is again required by the enthusiast at the race event at the track depending on how he/she and the car perform at the event. For example, if the enthusiast meets with an accident or if his car breaks down, his information needs and the sources he consults on track takes a new dimension if the decision is made to fix the car and continue racing. Once the race event is over, enthusiasts share, report and discuss their racing experiences with friends, family and fellow enthusiasts using different information sources.

Further, the findings confirm that enthusiasts use a variety of information sources, more electronic than paper-based sources. They relied heavily on the internet-based information sources: first their club's website; second CAMS website; and third the Google search engine. They are also aware which information source they need to select depending on their information need. This observation was made when participants were asked to describe what their last three information needs in Q16 were and

which information sources they consulted. Enthusiasts were observed to seek race event-specific information from the event organisers who are generally their car clubs by referring to the club's newsletters, magazines, websites, Facebook sites and e-mail communication. For licence and race regulations-specific information they consulted the CAMS website understandably as their race regulator. These findings attest the quality of the information sources enthusiasts are using to satisfy their information needs.

In the current research, when enthusiasts have an information need they used electronic and human sources to fill their gaps. They are aware and have access to a number of information sources, which mostly satisfy their information need. Human sources ranked 2nd amongst enthusiasts to keep themselves updated and informed about their motor sport (Savolainen and Kari, 2004, p. 420). Dervin reported in 1976 a similar finding in her research stating that citizens in their everyday life information seeking consulted peer networks comprising family and friends to fulfil their information needs (Dervin, 1976). A few researchers reported that human sources ranked higher in their research in the ELIS model (Chen and Hernon, 1982; Dervin, 1976; Savolainen, 1995a, b, c). Similarly, in the leisure information behaviour research reviewed in Table I, the findings indicated participants consulted their peer networks to keep themselves informed or when they had questions related to their hobbies (Chang, 2009; Gainor, 2009; Lee and Trace, 2009; Prigoda and McKenzie, 2007).

It is interesting that in the twenty-first century this trend continues when people have access to electronic technologies. However, in this research participants could be contacting their personal peer networks using mobile technologies more than in person. It is not possible to conclusively rank which of these options they prefer from the survey responses.

The information needs of the enthusiasts are dynamic depending on what aspects or tasks about their motor sport they are engaged in. However, their information needs are often one-off with clear start and end points. When they find the required information, their need is satisfied. As such, enthusiasts' information seeking is not intensive, ongoing or a continuing process of sense making and investigative research in contrast to family history/genealogy (Yakel, 2004) and food blogging research (Cox and Blake, 2011) where the information seeking activity operates without a clear end goal. In addition, enthusiasts seek information to fulfil their information gap, problem or task, not to seek meaning or for self-identification or self-discovery as reported in genealogy research (Yakel, 2004).

The findings did not indicate enthusiasts' information needs on who their spectators, audiences or the public system are, as in the case of food bloggers reported by Cox and Blake (2011, p. 216). Instead, the results indicate that motor sport enthusiasts are involved for their own leisure and for the gratification the sport offers for their participation. However, it is likely that sports promoters and event organisers are likely to be interested in knowing who the spectators are, where do they come from, which motor events they attend, etc.

Unlike the food bloggers (Cox and Blake, 2011) who are creating and thus publishing content with the intention of attracting internet traffic to their blogs, enthusiasts were observed to create content to share with family and friends about their recent motor sport race events.

Enthusiasts stated that they sought travel logistics information, which included finding out and arranging their travels to motor sport events to compete and/or officiate. The current research did not ask about their travel information needs and sources they consulted before and after the travel. However, from Chang's (2009)

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JDOC 72,6 research about backpackers need for information before and after travel and their use of different information sources at these stages, it can be assumed that this information behaviour would apply to motor enthusiasts, too.

Limitations

Given this was an exploratory study using an online survey, it was not possible to include a statistically representative sample, or to probe participants with further deeper questions to gain a comprehensive understanding of their information behaviour. Hence, when questions asked participants to rate their information seeking experience, it was not possible to probe further to find out why their experiences were unsatisfactory. Using interviews would have enabled robust and descriptive qualitative in-depth data thereby allowing for further probing and deeper investigation (Pickard, 2013). Future research involving interviews could be conducted, in particular as 52 participants (69 per cent) in this study provided an e-mail address and stated their willingness to participate in future research.

Further, as this research is restricted to one segment of the motor sport industry and focused on enthusiasts in Australia, it is acknowledged that the findings cannot be generalised to reflect the information behaviour of motor sport enthusiasts globally.

Significance of this research

This research contributes to the expanding scholarly research on people's everyday need, use, seeking, sharing and PIM in their serious leisure pursuits, with a focus on motor sport. The typology of enthusiasts information needs (Table VIII) is a significant contribution to the motor sport leisure activity.

This research is significant as it offers some original insights into two key areas. First, it is the first research to investigate the leisure information needs and practices of motor sport enthusiasts. Second, it is the first study to provide a preliminary motor sport information behaviour model for this community and this serious leisure activity (Figure 3).

Another significance of this research is that it further confirms that the seminal information behaviour research models of Wilson (1984, 1999, 2000), Krikelas (1983), Dervin (1992) and (Savolainen, 1995a, b, c) developed prior to the availability of social media sources are still relevant and can be applied to understanding serious leisure activities information behaviour.

This research further highlighted that the medium for information seeking generally has shifted from traditional paper-based sources to more electronic and web-based sources. Social media and web technologies, text messages and e-mails have enabled easier, faster and instant information communication, sharing, searching and retrieval, compared to traditional sources. Additionally, patterns for seeking information from human resources has changed from the traditional face-to-face interaction with people to online interactions with human resources using text messaging, e-mails and social media technologies.

The final significance of this research is that it highlights that motor sport enthusiasts generate, capture and maintain considerable personal information about their involvement in the sport. A high proportion of these information assets are stored in electronic format. They also share this information electronically with their family and friends. These findings should alert information management professionals in cultural institutions like the national libraries, archives and museums about the information risks of these electronic information assets in the hands of novice citizens,

who may not be aware of the fragility of electronic information. Or be skilled in ensuring the long-term preservation of their personal information assets before technological, software and format obsolescence sets in. It signifies the need for cultural institutions to visibly step-in with service provisions for the management of community-based information assets or community archives. How can these memory institutions sustainably capture the information assets of its citizens into their cultural repositories before it is lost or deteriorates? Or are there expectations that individual leisure communities will sustainably manage their community archives?

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Future research

This exploratory research needs to be validated with in-depth interview sessions with up to 24 enthusiasts so that deeper understanding of their information behaviour can be gained (Miles and Huberman, 1994). Additionally, five future research topics have been identified from this research.

The first is regarding what types and how frequently enthusiasts share their information on motor sport.

The second relates to what information sources enthusiasts preferred to satisfy their information needs. This study investigated which information sources enthusiasts used to satisfy their information needs but not what information sources they preferred. Hence, it would be worthwhile investigating whether they used Savolainen and Kari's (2004, p. 418) seven relevance judgement criteria to facilitate their everyday life information seeking: experience from use of previous information sources; situation demands on information seeking; perceived network competence; and perceived accessibility and quality of information sources.

The third relates to how enthusiasts are managing their personal information and to assess if it is indeed managed to best practice standards for archival collections. How do they manage their collections at home? Do they manage them electronically? If so what systems do they use? How are they managing their paper based collections? Is it being digitised? If yes, how are digital copies managed and are originals discarded or retained? Is there a system for filing or classifying like information together? Research into these questions will provide an opportunity to engage with the wider literature on PIM (Jones and Teevan, 2007). It would also determine whether an appraisal exercise is required to categorise their information as records of ephemeral, temporary and permanent archival value.

The fourth future research relates to this comment by a participant on how they manage their personal information: "My results are available on Natsoft and Facebook is available for anything else I want to share with the public". Natsoft is a third party database that captures motor sport race results in Australia. This comment highlights that citizens are using and turning to Facebook as an archival repository for their life history. Future research needs to be conducted to establish how true this phenomenon is and then assess the implications for cultural institutions. Should information management professionals start a dialogue with social media providers like Facebook to capture citizen's personal life histories, which forms family history information back into cultural repositories? Is Facebook becoming the new ancestry.com for citizen's family history repository and therefore family history research?

The fifth and final topic relates to enthusiasts' travel logistics information, which included finding out and arranging their travels to motor sport events to compete and or officiate. The current research did not ask about their travel information needs and sources they consulted before and after travel. Future research could explore motor sport enthusiasts' need for information on travel and whether the variety of sources consulted before, during and after travel matched the stages found in Chang's (2009) research on the information needs of backpackers.

Conclusion

This study explored the information behaviour of motor sport enthusiasts in Australia, and contributes to the growing body of literature on information in leisure or non-work settings. This research has substantiated that motor sport is a serious leisure activity (Stebbins, 2007) and since some participants engaged in multiple roles in the sport it is a mixed serious leisure activity (Stebbins, 2007, p. 34). The preliminary motor sport information behaviour model (Figure 3) summarises enthusiasts' leisure information behaviour.

As the populations in developed nations age (Australian Bureau of Statistics, 2014) and people have more time to engage in leisure activities (Chang, 2009), more information related to their leisure activities is likely to be generated, requested and shared. This circumstance will have implications for the provision of library, archives and museum services. In the case of motor sport's information assets, their community and individual enthusiasts' archives may need to be deposited at various cultural institutions: the physical motor car to the museum; photos, sport diaries, memorabilia to local history library collections or the state/national archives. This increase in community archives has implications for cultural institutions to devise strategies to capture citizens' social leisure historical archives in electronic and paper formats, physical artefacts and published on social media websites like Facebook and Flickr, for example.

It is hoped that the understanding gained from this research on enthusiasts' information behaviour would assist motor car clubs and CAMS when planning motor activities for their members and when considering systems to manage the motor sport community's archives and history.

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Appendix. Online survey

Information behaviour of motor sport enthusiasts

Q1 Are you a motor sport enthusiast? O Yes O No If No Is Selected, Then Skip To End of Block
O No
If No Is Selected, Then Skip To End of Block
About you: (These set of questions are about who you are and your hobby and leisure interest in motor sport)
Q2 What is your gender?
O Male
O Female
Q3 How old are you?
O Under 20
O 20-29
O 30-39
O 40-49
O 50-59
Q 60-69
O 70-79
O 80-89
9 0-99
Q4 Are or were you a motor sport competitor?
O Yes
O No
If No Is Selected, Then Skip To What are your connections regarding y

Q5 Which motor sport discipline do you compete in? Tick as many of the options below that apply.	Australian motor sport
☐ Auto-test☐ Historic Groups☐ Off-Road	•
□ Race	1109
□ Rally □ Regularity/Trial	
☐ Social	
□ Speed	
Q6 From your choice/s above please select the categories of the motor sport discipline that you compete in. You need to hold down the CONTROL Key whilst making your multiple selections with your mouse.	
All 57 categories listed on the CAMS website were listed as options and omitted here owing to word limit for the article.	
Q7 What is/are/were your involvement with motor sport? Tick as many of the options below that apply.	
☐ Volunteer for motor sport in the capacity of a Scrutineer, Clerk of Course, Steward of a Meeting, Flag Marshal, or any other Official's role on the day of the race meeting event	
☐ Volunteer in other ways, please specify	
Historian researching about motor sport	
 □ Committee member for your sporting car club/s or CAMS □ Spectator of motor sport 	
☐ Spouse, partner, family, friend of a motor sport competitor	
☐ Other, please specify	
Q8 How did you develop an interest in motor sport?	
Q9 How long have you had an interest in motor sport?	
O Less than a year	
O 2-3 years	
O 5-10 years	
O 11-20 years	
O 21-30 years O Other please specify	

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Q10 How much time would you spend each week engaged with things or matters involving motor sport?

- O Between 1 to 5 hours in a week
- O Between 6 to 10 hours in a week
- O Between 10 to 50 hours in a week
- O Other, please specify _____

Q11 Please rate your satisfaction level for each of the following regarding your interest in motor sport.

	Very Satisfied	Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Dissatisfied	Very Dissatisfied
The way in which you spend your money on your interest in motor sport?	O	O	O	O	O	O
The way in which you spend your free time on your interest in motor sport?	O	O	o	o	O	o
The membership services you receive from your various motor sport Car clubs.	O	O	O	O	O	O

⁻⁻⁻⁻ Your information needs and seeking behaviour: (The next set of questions is about your information needs in motor sport and how you seek this information)

	2 What information needs related to your interest in motor sport do you have? Tick as ny of the options below.
	Technical information – to fix, maintain, repair, restore, upgrade, and/or modify the car.
	What are the upcoming competitions – what, where, when, format (hill climb, regularity,
	race, sprint, etc.) so that I can consider registering for the event.
	Registration information for competitions – how to register, what registration forms need
	to be completed.
	About the course itself – about and how the course venue is arranged, e.g. video clips.
	Logistics information – travel arrangements to venues, organise transport and
	accommodation.
	Competition information - regulations, scrutineering, when, where and time for my
	drivers' briefings, safety highlights, race results,
	Social events – social events organised by my club or CAMS that is of interest to me and
_	my family and friends?
Ц	Other, please specify
	3 Generally how and what information sources do you use to find the information you ad for your interest in motor sport? Tick as many of the options below.
	Keep up with what is going on by reading, watching and listening about motor sport in
	the traditional information sources like: newspapers; radio; television; magazines and books
	Read relevant information from the websites; Wikipedia; YouTube, etc.;
	Subscribe and use social media tools like: blogs; Facebook sites; Flickr; Pinterest;
	Instagram, etc.
	View trade catalogues relevant to my car
	Use the online motor sport forums to post my question and get answers from there
	Contact family and friends by email, phone, text messages, in person
	Contact fellow motoring enthusiasts by email, phone, text messages, in person
	Contact my motoring club by email, phone, text messages, in person
	Contact the Confederation of Australian Motor Sport (CAMS) by email, phone, in person
	Contact the event organisers for competitions by email, phone, text messages, in person
	Other, please specify
	4 Do you share information about your interest in motor sport with family, friends and low motor sport enthusiasts?
O	Yes
O	No
If N	o Is Selected, Then Skip To Please rate your satisfaction levels

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	☐ My own website
	☐ Email
	☐ Text or SMS
1112	☐ Facebook
1112	■ YouTube
	☐ Flickr
	☐ Instagram
	☐ Pinterest
	☐ Other, please specify

Q16 Please rate your satisfaction levels for the last 3 information needs you had. E.g. Information need=I had to find out when the next race meeting is. E.g. Information source=I sought this information by browsing my club's website. State NA if you are unable to recall your information need, then select NA for the multiple choices for that row in the last column.

	Describe what information you needed?	Describe what information sources you checked?	Rate your satisfaction level fulfilling your information need.			
	Information need	Information Source	Satisfied	Somewhat satisfied	Not Satisfied	NA
Information Need 1			O	0	0	0
Information Need 2			O	O	0	O
Information Need 3			O	O	0	0

----- Personal information management: (This section of questions is about you manage your personal motor sport information)

Q17 What i below.	nformation ab	oout motor spo	ort do you hav	ve at home? T	ick as many o	f the options	Australian motor sport
 □ Specifications for cars □ Club specific information like club newsletters, minutes of meetings, etc. □ Club records and archives in my role as a committee member or volunteer to assist the club with organising a race meeting □ Photos about cars, events I attended, etc. □ Registrations for competitions □ Competition results □ Trophies and other memorabilia □ Certificate of awards for my motor sport achievements and contributions to motor sport □ Posters on motor sport 							1113
	lease specify						
 Half pap Primaril Primaril Q19 Please	per and half el- y paper based y electronic bar rate your sati	ectronic based	on how you	formation reso		information	
	Very	Satisfied	Somewhat	Somewhat	Dissatisfied	Very	
	Satisfied		Satisfied	Dissatisfied		Dissatisfied	
I am	0	0	0	0	0	O	
Q20 Would • Yes • No	you like advi	ce and assistar	nce for manag	ing these info	rmation resou	rces?	

Corresponding author

Pauline Joseph can be contacted at: p.joseph@curtin.edu.au

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