

# Disaster Prevention and Management

## **Insight into the nature of road accidents from data on injured and dead**

**Piyoosh Rautela**

*Based at the Disaster Mitigation and Management Centre, Uttaranchal Secretariat,  
Dehradun, India*

**Ravish Sharma**

*Based at the Disaster Mitigation and Management Centre, Uttaranchal Secretariat,  
Dehradun, India*



**Disaster Prevention and Management:  
An International Journal**

ISSN 0965-3562

©2004 Emerald Group Publishing Limited

*Disaster Prevention and Management, An International Journal*, sets out to advance the available knowledge in the fields of disaster prevention and management and to act as an integrative agent for extant methodologies and activities relating to disaster emergency and crisis management. Publishing high quality, refereed papers, the journal supports the exchange of ideas, experience and practice between academics, practitioners, and policy-makers.

**Editor** Dr H.C. Wilson

*Senior University Teacher, Department of  
Cybernetics & Virtual Systems, University of  
Bradford, Bradford BD7 1DP*

**Managing Editor** Simon Linacre

**Consulting Editor** Dr A.Z. Keller

*Durham University Business School, UK*

**Editorial Advisory Board**

Professor D. Alexander

*Disaster Management Centre, Cranfield University,  
Royal Military College of Science, Shrivenham, Swindon, UK*

E.E. Alley, OBE

*Consultant, UNDR0*

K. Cassidy

*Major Hazards Unit, Health & Safety Executive, UK*

Professor Hayim Granot

*Mass Emergencies Project, School of Social Work, Bar-Ilan  
University, Israel*

Dr W. Gunn

*President, Mediterranean Burns Club, Switzerland*

P.E. Hodgkinson

*Director, The Centre for Crisis Psychology, UK*

Professor T. Kletz

*Department of Chemical Engineering, Loughborough  
University, UK*

Dr J. Levinson

*Visiting Professor at John Jay College of Criminal Justice, City  
University of New York, USA*

Dr Douglas Paton

*School of Psychology, University of Tasmania, Launceston,  
Tasmania, Australia*

Professor E.L. Quarantelli

*Research Professor, Disaster Research Center, University of  
Delaware, USA*

Dr A. Redmond

*North Staffordshire Trauma Centre, UK*

Professor M. Seaward

*Environmental Sciences, University of Bradford, UK*

Professor D.P. Singh

*PSS Central Institute of Vocational Education, Bhopal, India*

Professor D. Smith

*University of Liverpool Management School, Liverpool, UK*

Dr W. Stahel

*The Geneva Association, Switzerland*

Professor David Weir

*Professor, Ceram Sophia Antipolis, France*

Professor D. Wilhite

*Director, International Drought Information Center,  
University of Nebraska, USA*

Professor Hiroaki Yoshii

*Senior Researcher, Bunkyo University, Japan*

Published in association with the Disaster Prevention and  
Limitation Unit, University of Bradford

This journal is also available online at  
[www.emeraldinsight.com/dpm.htm](http://www.emeraldinsight.com/dpm.htm)

Internet services available worldwide  
at [www.emeraldinsight.com](http://www.emeraldinsight.com)

**Emerald Group Publishing Limited**

60/62 Toller Lane, Bradford,  
West Yorkshire, England BD8 9BY

Tel +44 (0) 1274 777700

Fax +44 (0) 1274 785200

E-mail [help@emeraldinsight.com](mailto:help@emeraldinsight.com)



INVESTOR IN PEOPLE

**Indexed and abstracted in:**

Cabell's Directory of Publishing Opportunities in  
Management and Marketing

Emerald Reviews (formerly Anbar)

Geographical Abstracts: Human Geography

Health & Safety Science Abstracts

Risk Abstracts

ASFA-2: Ocean Technology, Policy & Non Living Resources  
Abstracts

ASFA-3: Aquatic Pollution & Environmental Quality Abstracts

Taylor and Francis Ergonomics Abstracts

**Regional offices:**

**For North America**

Emerald, 875 Massachusetts Avenue, 7th Floor,  
Cambridge, MA 02139, USA

Tel Toll free +1 888 622 0075;

Fax +1 617 354 6875

E-mail [america@emeraldinsight.com](mailto:america@emeraldinsight.com)

**For Japan**

Emerald, 3-22-7 Oowada, Ichikawa-shi, Chiba, 272-0025, Japan

Tel +81 47 393 7322; Fax +81 47 393 7323

E-mail [japan@emeraldinsight.com](mailto:japan@emeraldinsight.com)

**For Asia Pacific**

Emerald, 7-2, 7th Floor, Menara KLH,  
Bandar Puchong Jaya, 47100 Puchong, Selangor, Malaysia

Tel +60 3 8076 6009; Fax +60 3 8076 6007

E-mail [asiapacific@emeraldinsight.com](mailto:asiapacific@emeraldinsight.com)

**Customer helpdesk:**

Tel +44 (0) 1274 785278;

Fax +44 (0) 1274 785204;

E-mail [support@emeraldinsight.com](mailto:support@emeraldinsight.com)

Web [www.emeraldinsight.com/customercharter](http://www.emeraldinsight.com/customercharter)

**Orders, subscription and missing claims enquiries:**

Tel +44 (0) 1274 777700;

Fax +44 (0) 1274 785200

Missing issue claims will be fulfilled if claimed within four  
months of date of despatch. Maximum of one claim per issue.

**Reprints and permissions service:**

John Eggleton

E-mail [jeggleton@emeraldinsight.com](mailto:jeggleton@emeraldinsight.com)

Web [www.emeraldinsight.com/reprints](http://www.emeraldinsight.com/reprints)

Web [www.emeraldinsight.com/permissions](http://www.emeraldinsight.com/permissions)

No part of this journal may be reproduced, stored in a retrieval system, transmitted  
in any form or by any means electronic, mechanical, photocopying, recording or  
otherwise without either the prior written permission of the publisher or a licence  
permitting restricted copying issued in the UK by The Copyright Licensing Agency  
and in the USA by The Copyright Clearance Center. No responsibility is accepted for  
the accuracy of information contained in the text, illustrations or advertisements.  
The opinions expressed in the articles are not necessarily those of the Editor or the  
publisher.

**Emerald is a trading name of Emerald Group Publishing  
Limited**

**Printed by** Printheus Group Ltd, Scirocco Close,  
Moulton Park, Northampton NN3 6HE



Awarded in recognition of  
Emerald's production  
department's adherence  
to quality systems and  
processes when  
preparing scholarly  
journals for print

Certificate number .....198599.....

---

# Insight into the nature of road accidents from data on injured and dead

---

*Piyoosh Rautela and Ravish Sharma*

---

## The authors

Piyoosh Rautela and Ravish Sharma are in the Disaster Mitigation and Management Centre, Uttaranchal Secretariat, Dehradun, India.

---

## Keywords

Road accidents, Death, Injuries, India

---

## Abstract

Analysis of data on road accidents collected from different sources brings forth important characteristics related to the nature of accidents. Based on this, the fatality index (FI) is defined as the ratio of fatalities to injuries in accidents. An increase in FI is indicative of fatalities in accidents. High FI is observed to correlate positively with difficult terrain, slow response and poor medical facilities. FI therefore represents an important indicator for planning initiatives to reduce fatalities related to road accidents.

---

## Electronic access

The Emerald Research Register for this journal is available at [www.emeraldinsight.com/researchregister](http://www.emeraldinsight.com/researchregister)

The current issue and full text archive of this journal is available at [www.emeraldinsight.com/0965-3562.htm](http://www.emeraldinsight.com/0965-3562.htm)

## Introduction

Despite causing loss of human life and property, together with the associated trauma and suffering, road accidents are often not placed under the category of disasters. The magnitude of the problem is often not realised, and these are looked upon as stray incidences. This leads to lack of organised support for efforts to mitigate road accidents, and tolls keeps mounting with increases in road length and vehicular traffic.

The Vienna Convention on Road Traffic (1968) defined injury in road crashes as being the result of the collision of a moving vehicle on a public road in which a road user (human or animal) is injured (IRTAD, 1992). A road death is deemed to have occurred when a person injured dies within 30 days of the crash (and as a result of the crash), but not all countries adhere to this definition. For the purposes of this study, people injured or killed in an accident are taken to be the number of persons reported to be injured or killed by local police records as a result of road accidents. The police department in India has a procedure of reporting all accidents by lodging a First Information Report (FIR) of the same in the reporting station under whose jurisdiction the accident has taken place. Death or damage caused by the accident is also reported in the FIR, which is produced in court during any judicial enquiry into the case. Statistics of accidents for the state of Uttaranchal are based on the FIRs of the police department for the previous two years (2002 and 2003), and these are expected to cover the majority of accidents occurring in the state. However, some accidents may have gone unreported, and therefore the statistics give the minimum status.

## Road accidents: the scenario

There is growing concern worldwide over increasing incidences of road accidents and consequent loss of human life, together with the loss in workforce due to disabilities caused by road accidents and the economic losses that they inflict on society. Two major studies (World Health Organisation, 1996, 1999) assessing causes of death placed road accidents ninth in 1990 on a comprehensive list of more than one hundred separate causes of death. Forecasts made from analysis of data and trends suggest that by the year 2020, road accidents as a cause of death will have

---

The authors are grateful to the Executive Director, DMMC for guidance, support and encouragement. The State Police Department is thanked for providing important data related to road accidents.



moved up to sixth place. It has been predicted that "years of life lost" and "disability-adjusted life years" due to road accidents will reach second and third place, respectively, by 2020. Attempts to highlight the worsening road accident scenario have also been made (Ghee *et al.*, 1997), and the World Health Organisation (WHO) has estimated the death toll in road accidents in 1998 to be 1.17 million worldwide.

Data on road accidents for the previous 30 years (1970-2001) for India indicate that they have gradually increased from 114,100 to 394,800 in this period, 3.5-fold increase (Road Safety Cell, Ministry of Road Transport and Highways, n.d.). In this period, annual road fatalities have increased from 14,500 to a staggering 80,000, and the number of people injured in accidents has risen from 70,100 to 382,700.

State data on road accidents show that fatalities related to road accidents are highest in the state of Maharashtra, followed by Andhra Pradesh, Tamil Nadu and Uttar Pradesh. Not surprisingly, these are the states that have the greatest number of vehicles, with the exception of Gujarat, which despite having more vehicles, has a smaller number of fatalities related to road accidents. Fatalities per 100 kilometers of road length are highest in Haryana (ten), Chandigarh, Delhi, Daman and Diu (seven each) and lowest in the hilly northeastern states of Nagaland, Arunachal Pradesh and Mizoram.

Data on the number of people injured is generally expected to correlate positively with the fatality data, but when analysed for different states these show some marked divergences that are suggestive of some underlying clue regarding the nature of accidents in different states. To understand this divergence and to analyse the causes underlying it, the ratio of fatalities in road accidents and people injured in accidents in different states was studied in detail. Defined here as the fatality index (FI) of road accidents, this ratio gives important clues on the nature of road accidents. The FI increases as more and more road accidents become fatal (i.e. more people are killed in relation to those injured):

$$FI = \frac{\text{Number of fatalities}}{\text{Number of people injured}}$$

Analysis of road accident data for three years (1999, 2000 and 2001) shows marked differences in the nature of accidents in different states. FI is observed to be higher for Punjab, Uttar Pradesh, Uttaranchal, and Mizoram (Figure 1) despite these states recording a relatively smaller number of fatalities. This reflects the fatal nature of road accidents in these states. The reasons for this

might be different for different states, and may include:

- bad road conditions;
- topography;
- delays in post-accident medical care; and
- non-compliance with traffic rules, etc.

FI is only suggestive of the relative fatal nature of accidents, and the causes of accidents have to be investigated individually.

### Road accident scenario in the Himalayan state of Uttaranchal

Uttaranchal is mainly rugged mountainous terrain, with ten of its 13 districts falling totally within the Himalayas, while Haridwar, Udham Singh Nagar are totally plains and Dehradun is partially plains. FI analysis shows that road accidents in the state of Uttaranchal are highly fatal (FI ~ 0.5) and that the causes of accidents are rooted in its rugged topography, remoteness, inadequate response structure and medical facilities.

Having defined FI as reflecting the nature of road accidents, it is imperative to study FI individually for different districts, so that the reasons for peculiar patterns can be investigated at a local level and measures to reduce accident frequency and fatality can be planned. Data on accidents was collected from the Police Department for all 13 districts of the state of Uttaranchal for the years 2002 and 2003. This data was used to study accident patterns in various districts together with the type of vehicle involved and the timing of accidents.

On average, around 700 people are killed every year due to accidents in the state, and the three districts described earlier as being totally or partially plains (i.e. Dehradun, Udham Singh Nagar and Haridwar) account for the maximum number of road fatalities (50 per cent of total fatalities; Figure 2). Of the hill districts, the maximum number of accident-related casualties are recorded in Chamoli, Tehri, Uttarkashi, Pauri Garhwal, Pithoragarh and Nainital.

Speeding is considered to be the main cause of accidents. However, in the hills there are fewer collision-related accidents, and major damage is caused by vehicles falling off the road. Trucks (goods carriers) are most frequently involved in road accidents, but in the hills the jeep (a popular mode of public transport) is the major culprit for most accidents. Most accidents are observed to take place during the night (between 18.00 and 06.00 hours).

Despite having fewer fatalities, FI is considerably higher in the hills (Figure 3), with

Figure 1 Fatality index in different states of India for 1999, 2000 and 2001

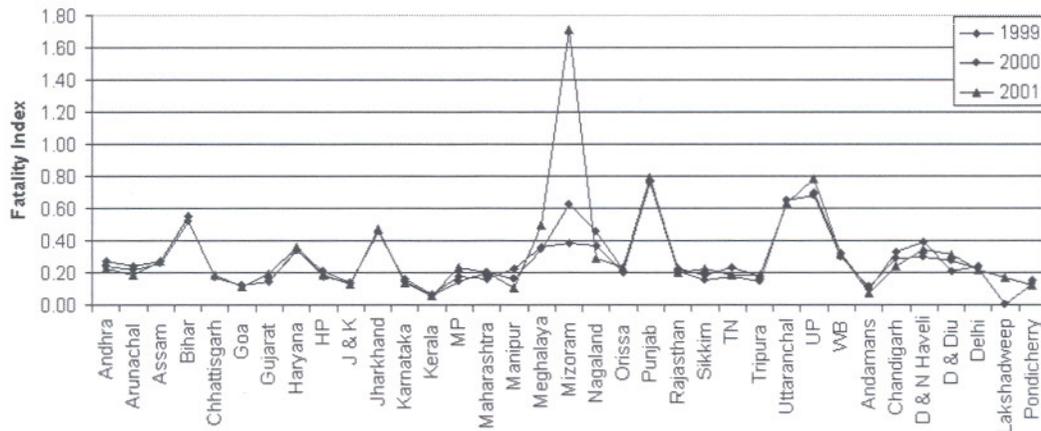


Figure 2 Data showing accidents causing fatalities and road accident scenario in Uttaranchal

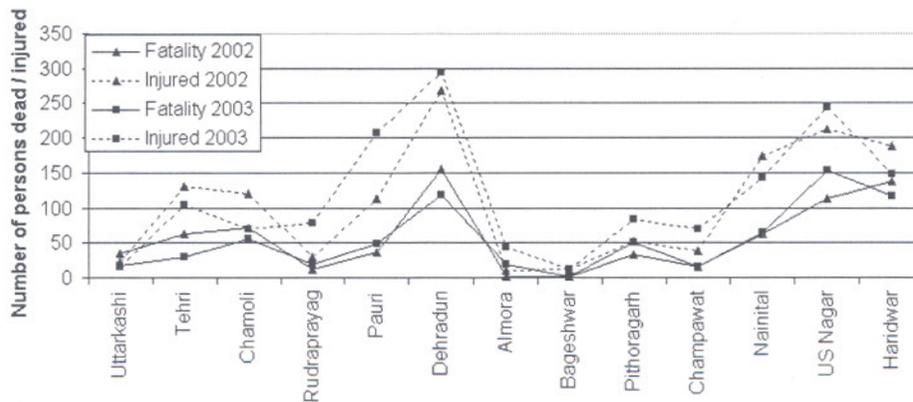
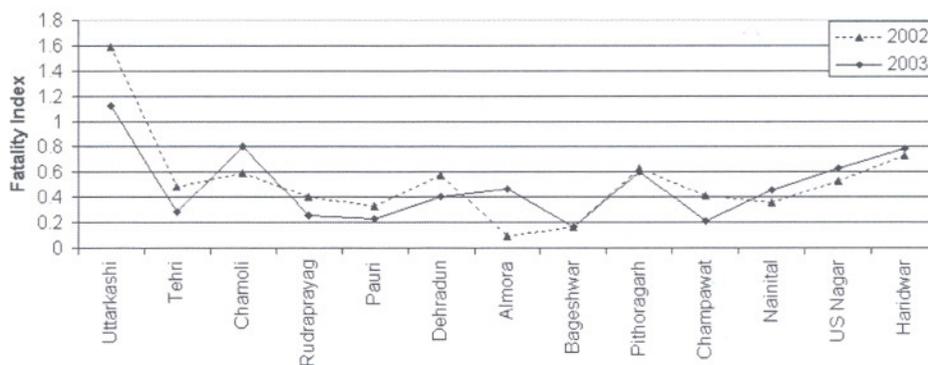


Figure 3 Fatality index in Uttaranchal



Uttarkashi exhibiting a FI of more than unity (more people killed in accidents than those injured). Pithoragarh and Chamoli are two other hill districts with a high FI. It is worth noting that all three hill districts showing high FI are remote frontier districts of the state, and the terrain conditions in these districts are rough with high

relief. Moreover, a major portion of the *Yatra* (pilgrimage) route (Gangotri and Badrinath) passes through Chamoli and Uttarkashi districts. These districts therefore experience a large number of tourists who are not accustomed to hill driving. This is highlighted in the monthly distribution of road fatalities in these districts,

which registers a steep rise during the summer (the *Yatra* season). Post-accident medical facilities are also not particularly good in these remote hill districts, and this aggravates the accident death toll. The relatively low FI in low-lying districts, despite them having more accidents and fatalities, is attributed to terrain conditions, which reduce rescue time, and access to better medical facilities in these districts.

The state government needs to direct more resources into making accidents in these three hill districts less fatal, and for this both structural and non-structural measures should be employed.

### Mitigation strategy for reducing FI

The Himalayan terrain of Uttaranchal is highly fragile and prone to natural disasters. Through generations of experience, observation, experimentation and accumulated knowledge, the people living in this rugged terrain have devised innovative ways of mitigating the effects of earthquakes, landslides, flash floods and drought.

With the introduction of modern means of transportation and construction of roads in the region in the last century, people witnessed the fury of road accidents and the untimely death of a large number of people because of them. The people were observant of this phenomenon, and it was observed early that the frequency of fatal road accidents was particularly high on certain stretches of road. People attributed this to the curse of some local deity and resorted to the construction of small roadside temples at these points. The practice of slowing down and stopping at these temples in respect to these deities and to pray for a secure journey thus became common practice, and it has helped in reducing the frequency of accidents on these stretches of road. The recognition of these temples can be estimated from the fact that almost all new vehicles are first taken to these temples to get the blessings of the deity, and this practice is invariably followed by people of all beliefs and sects.

The hilly terrain of Uttaranchal houses a number of famous tourist, adventure sports, and pilgrimage centers that attract large number of people from across the country and abroad. The region thus experiences a large number of drivers who are not conversant with the terrain, the principles of hill driving and the significance of these small roadside temples, and thus very often are involved in accidents. It is for the safety of these people, and also to promote tourism (one of the main sources of revenue) that road safety needs to be given more attention.

Some suggestions for reducing the frequency of road accidents in the hills include:

- *Awareness generation* – In the hills, certain stretches of the road are known to be prone to accidents. A massive awareness drive to make drivers conscious of this fact should be launched. Apart from this, drivers should be made aware of the various precautions that can be taken to avoid road accidents in the hills.
- *Licensing* – Licensing procedures have been relaxed in previous years, and this has led to the granting of licenses to some who are not well trained in driving. The issuing of new driving licenses needs to be made more stringent, and procedures should be laid down for the cancellation of the driving licenses of those drivers involved in reckless driving.
- *Surveillance* – In the hills a large number of accidents are caused by overloading and the use of vehicles which are not roadworthy. To combat this, stringent surveillance should be employed, and strict and immediate action should be taken against defaulters.
- *Rescue teams* – In the rugged Himalayan terrain of Uttaranchal even a small amount of negligence on the part of the driver has the potential to cause fatal accidents, and this is reflected in the large number of accidents that result from vehicles falling off the road into deep gorges, cliffs and fast flowing and deep water. Even if the police force reaches the site of the accident, it is ill equipped and badly trained at rescuing the victims. The delay in response thus leads to soaring fatality rates in such cases. To reduce fatality rates on mountain roads it is essential to train and equip those in charge of search and rescue in the aftermath of any accident. The option of raising a trained cadre of rescue volunteers could also be useful for this purpose. Trained rescue personnel should be stationed at crucial sites and must be provided with better communication and mobility.
- *Night driving* – A large number of accidents in the hilly region take place at night. Night driving should be forbidden in the hills.
- *Barricading* – Zones in which accidents occur frequently should be marked and special structural measures should be employed in these zones to avoid fatal accidents.
- *Not leaving everything to the government* – It is necessary that organisations involved in insurance, tourism, hospitality and the like become partners in making hill roads safer. These organisations need to be motivated into making investments in the field of accident mitigation, as this would lead to a reduction in

accident claims for insurance companies, while the business of the others would increase. This would amount to a win-win situation for all players.

## References

- Ghee, C., Silcock, D., Astrop, A. and Jacobs, G.D. (1997), "Socio-economic aspects of road accidents in developing countries", *TRL Report TRL247*, Transport Research Laboratory, Crowthorne.
- IRTAD (1992), "Definitions and data availability", *Special Report*, OECD-RTR, Road Transport Programme, BAST, Bergisch Gladbach.
- Road Safety Cell, Ministry of Road Transport and Highways (n.d.), *Road Accident Data*, Road Safety Cell, Ministry of Road Transport and Highways, Government of India, New Delhi.

- World Health Organisation (1996), *Global Burden of Disease*, World Bank/Harvard University Press, Boston, MA.
- World Health Organisation (1999), *World Health Report: Making a Difference*, World Health Organisation, Geneva.

## Further reading

- Bolin, R. and Stanford, L. (1998), *The Northridge Earthquake: Vulnerability and Disaster*, Routledge, London.
- Cannon, T. (1994), "Vulnerability analysis and the explanation of 'natural' disasters", in Varley, A. (Ed.), *Disasters, Development and Environment*, Wiley, New York, NY.
- Fritz, C.E. (1961), "Disasters", in Merton, R. and Nisbet, R. (Eds), *Contemporary Social Problems*, Harcourt Brace, New York, NY.

# Author guidelines

## Disaster Prevention and Management: An International Journal

### Copyright

Articles submitted to the journal should be original contributions and should not be under consideration for any other publication at the same time. Authors submitting articles for publication warrant that the work is not an infringement of any existing **copyright** and will indemnify the publisher against any breach of such warranty. For ease of dissemination and to ensure proper policing of use, papers and contributions become the legal copyright of the publisher unless otherwise agreed. Submissions should be sent to:

### The Editor

Dr H.C. Wilson, Senior University Teacher,  
Department of Cybernetics & Virtual Systems,  
University of Bradford, Bradford BD7 1DP.

### Editorial objectives

This international journal sets out to advance the available knowledge in the fields of disaster prevention and management and to act as an integrative agent for extant methodologies and activities relating to disaster emergency and crisis management. The prime requirement will be that each article:

- (1) makes a significant original contribution to the field;
- (2) is directly relevant to the management of disaster;
- (3) contains elements which have general application;
- (4) is within the scope of the journal coverage;
- (5) has generally not been published previously except in very limited circulation.

### The reviewing process

Each paper submitted is reviewed by the editor for general suitability for publication and the decision whether or not to publish is made in consultation with members of the editorial board.

### Manuscript requirements

Three copies of the manuscript should be submitted in double line spacing with wide margins. All authors should be shown and **author's details** must be printed on a separate sheet and the author should not be identified anywhere else in the article.

As a guide, articles should be between 3,000 and 4,000 words in **length**. A **title** of not more than eight words should be provided. A brief **autobiographical note** should be supplied including full name, affiliation, e-mail address and full international contact details.

Authors must supply a **structured abstract** set out under 4-6 sub-headings: Purpose; Methodology/Approach; Findings; Research limitations/implications (if applicable); Practical implications (if applicable); and the Originality/value of paper. Maximum is 250 words in total. In addition provide up to six **keywords** which encapsulate the principal topics of the paper and categorise your paper under one of these **classifications**: Research paper, Viewpoint, Technical paper, Conceptual paper, Case study, Literature review or General review. For more information and guidance on structured abstracts visit: [www.emeraldinsight.com/literaticlub/editors/editorialadmin/abstracts.htm](http://www.emeraldinsight.com/literaticlub/editors/editorialadmin/abstracts.htm)

Where there is a **methodology**, it should be clearly described under a separate heading. **Headings** must be short, clearly defined and not numbered. **Notes** or **Endnotes** should be used only if absolutely necessary and must be identified in the text by consecutive numbers, enclosed in square brackets and listed at the end of the article.

All **Figures** (charts, diagrams and line drawings) and **Plates** (photographic images) should be submitted in both electronic form and hard copy originals. Figures should be of clear quality, black and white and numbered consecutively with arabic numerals.

Electronic figures should be either copied and pasted or saved and imported from the origination software into a blank Microsoft Word document. Figures created in MS Powerpoint are also acceptable. Acceptable standard image formats are: .eps, .pdf, .ai and .wmf. If you are unable to supply graphics in these formats then please ensure they are .tif, .jpeg, .bmp, .pcx, .pic, .gif or .pct at a resolution of at least 300dpi and at least 10cm wide. To prepare **screenshots** simultaneously press the "Alt" and "Print screen" keys on the keyboard, open a blank Microsoft Word document and simultaneously press "Ctrl" and "V" to paste the image. (Capture all the contents/windows on the computer screen to paste into MS Word, by simultaneously pressing "Ctrl" and "Print screen".)

For photographic images (plates) good quality original photographs should be submitted. If supplied electronically they should be saved as .tif or .jpeg files at a resolution of at least 300dpi and at least 10cm wide. Digital camera settings should be set at the highest resolution/quality as possible.

In the text of the paper the preferred position of all figures and plates should be indicated by typing on a separate line the words "Take in Figure (No.)" or "Take in Plate (No.)". Supply succinct and clear captions for all figures and plates.

**Tables** must be numbered consecutively with roman numerals and a brief title. In the text, the position of the table should be shown by typing on a separate line the words "Take in Table IV".

**References** to other publications must be in Harvard style and carefully checked for completeness, accuracy and consistency. This is very important in an electronic environment because it enables your readers to exploit the Reference Linking facility on the database and link back to the works you have cited through CrossRef. You should include all author names and initials and give any journal title in full.

You should cite publications in the text: (Adams, 1997) using the first named author's name. At the end of the paper a reference list in alphabetical order should be supplied:

*For books:* surname, initials, (year), *title of book*, publisher, place of publication, e.g. Fallbricht, A. and Khan, G. (2001), *Competing Strategies*, Outhouse Press, Rochester.

*For book chapters:* surname, initials, (year), "chapter title", editor's surname, initials, *title of book*, publisher, place of publication, pages, e.g. Bessley, M. and Wilson, P. (1999), "Marketing for the production manager", in Levicki, J. (Ed.), *Taking the Blinkers off Managers*, Broom Relm, London, pp.29-33.

*For journals:* surname, initials, (year), "title of article", *journal name*, volume, number, pages, e.g. Greenwald, E. (2000), "Empowered to serve", *Management Decision*, Vol. 33 No. 5, pp. 6-10.

*For electronic sources:* if available online the full URL should be supplied at the end of the reference.

### Final submission of the article

Once accepted for publication, the final version of the manuscript must be provided, accompanied by a 3.5" **disk**, **Zip disk** or **CD-ROM** of the same version labelled with: disk format (Macintosh or PC); author name(s); title of article; journal title; file name.

Alternatively, the editor may request the final version as an attached file to an e-mail.

Each article must be accompanied by a completed and signed **Journal Article Record Form** available from the Editor or on [www.emeraldinsight.com/literaticlub/jarforms.htm](http://www.emeraldinsight.com/literaticlub/jarforms.htm)

The manuscript will be considered to be the definitive version of the article. The author must ensure that it is complete, grammatically correct and without spelling or typographical errors.

In preparing the disk, please use one of the following preferred formats: Word, Word Perfect, Rich text format or TeX/LaTeX.

Technical assistance is available from Emerald's Literati Club on [www.emeraldinsight.com/literaticlub](http://www.emeraldinsight.com/literaticlub) or by contacting Mike Massey at Emerald, e-mail: [mmassey@emeraldinsight.com](mailto:mmassey@emeraldinsight.com)

# Authors' Charter

## Your rights as a contributor to an Emerald journal

### **Emerald's copyright principles**

Emerald\* seeks to retain copyright of the articles it publishes, without the authors giving up their rights to republish or reproduce their articles on paper or electronically, subject to acknowledgment of first publication details.

### **Emerald's commitment to you**

- An innovative publishing service which is timely, efficient, responsive and courteous
  - Quality peer reviewed journals with editorial teams of distinction
  - A named individual to keep you informed of publication progress
  - Complimentary journal copy **plus** reprints of your paper
- An editorial and production policy which encourages accuracy and reduces submission to publication times
  - On-line resources, forums and conferences to assist you with your research
- Responsible rights management to promote and safeguard the integrity of your work, encourage citation and wider dissemination
- Liberal reproduction rights and premium permissions service for yourself and subscribing organizations to serve the interests and needs of the scholarly community
  - Additional benefits of Literati Club membership
- Consideration for nomination of the Annual Awards for Excellence to reward outstanding work
  - Outstanding Doctoral Research Awards for our author community.

\*Emerald - Electronic Management Research Library Database. Emerald is a trading name of MCB UP Ltd.

The full text of Emerald's Authors' Charter can be found at  
[www.emeraldinsight.com/charter](http://www.emeraldinsight.com/charter)

To discuss any aspect of this charter please contact us by e-mail at  
[literaticlub@emeraldinsight.com](mailto:literaticlub@emeraldinsight.com)

Tel +44(0) 1274 777700 Fax +44 (0) 1274 785200  
Literati Club, Emerald, 60/62 Toller Lane, Bradford BD8 9BY, United Kingdom.

