

# **Managing Small and Medium Firms in a Changing Environment**

**Edited by  
Cleopatra Veloutsou**

**Athens Institute for Education and Research  
2009**

First Published in Athens, Greece by the Athens Institute for Education and Research.

ISBN: 978-960-672-62-0

All rights reserved. No part of this publication may be reproduced, stored, retrieved system, or transmitted, in any form or by any means, without the written permission of the publisher, nor be otherwise circulated in any form of binding or cover.

Printed and bound in Athens, Greece by ATINER SA

8 Valaorion Street  
Kolonnaki, 10671 Athens, Greece  
[www.atiner.gr](http://www.atiner.gr)

©Copyright 2009 by the Athens Institute for Education and Research. The individual essays remain the intellectual properties of the contributors.

## Table of Contents

List of Contributors		
1.	Introduction <i>Velousov, C.</i>	1
Section One: Size and the Development of SMEs		
2.	A Re-examination of Firm Size in Technology Commercialization: The Canadian Experience <i>Persaud, A.</i>	7
3.	A Critical Evaluation of Alternative Growth Strategies for SMEs Experiencing the 'Plateau Effect' <i>Herdman, W.L.</i>	19
4.	Value Implications of the Degree of Market Penetration: The Case of Israeli Start-up Ventures <i>Gavious, I. and Schwartz, D.</i>	33
5.	The Role of Small and Medium Sized Enterprises in Development of Lithuanian Foreign Trade <i>Bernatonyte, D. and Normantiene, A.</i>	55
Section Two: Management and Employment		
6.	Technological Innovation, Aggregate Fluctuations and Employment (Hours) <i>Aryuleva, N.K.G.</i>	69
7.	Owner-Managers' Perspective of Leadership and Management Development: The Case of Indonesian SMEs <i>Suryani, D.Y.</i>	87
8.	A Theoretical Approach for the Use of Experts in SMEs <i>Decardin, J.M. and Eloyoubi, M.</i>	101
9.	Tacit Knowledge Diffusion in Family Business Succession <i>Haldrup-Herrgard, T.</i>	109
10.	External Environment and Internal Characteristics of Women Entrepreneurship in China <i>Deng, S., Wang, X. and Xiao, D.</i>	121
11.	Voluntary or Involuntary? Legal and HR Implications for an Occupational Health and Safety Voluntary Code of Practice for SMEs <i>Marshall, V. and Pedigo, K.</i>	137
12.	Why and how SMEs Protect their Innovations <i>Mol, M.C.</i>	149
Section Three: Financial and Accounting Issues		
13.	An Investigation into the Impact of Investment Appraisal Techniques on the Profitability of Small Manufacturing Firms in the Nelson Mandela Metropolitan Bay Area of the Eastern Cape Province of South Africa <i>Okubena, O.</i>	165

## List of Contributors

- |  |   |     |
|--|---|-----|
| 14.  | Development and Financing of Small Enterprises in Rural Areas of Latvia<br><i>Kantike, I and Egļite, A.</i>                                   | 179 |
| 15.  | Social Capital and Business Start-up financing in China's Private Enterprises<br><i>Huang, Q.</i>   | 189 |
| 16.  | SME Accounting Standardization in Europe is a Need?<br><i>Tiron Tudor, A.</i>   | 207 |
| Section Four: The Environment and Policy Making for the SMEs |   |     |
| 17.  | International Virtual Industry Clusters and SME: Some Policy Recommendations<br><i>Russ, M. and Jones, J.K.</i>                               | 223 |
| 18.  | Perspectives on Entrepreneurship: The Case of South Africa<br><i>Mkhlow, T.P.</i>   | 239 |
| 19.  | Issues on Small Business Enterprises of Orang Asli Aborigines in Pahang, Malaysia<br><i>Jamak, A.B.S.A., Md Eusof, A.J. and Sivapalan, S.</i> | 253 |
| 20.  | Transition Paradoxes: Enterprise and Policy does not Promoting its Level in Lithuania<br><i>Sohyiskiniene, J.</i>                             | 267 |
| 21.  | The Impact of the New Europe on CEE SMEs: A Hungarian Perspective<br><i>Mayer, C.S.</i>   | 279 |
| 22.  | The Corporate Manslaughter and Corporate Homicide Act 2007: Some Implications for Small and Medium Sized Enterprises<br><i>Dobson, A.</i>     | 291 |

Anyalezu, N.K.G., Professor, University of Surrey, UK  
 Bernatonyte, D., Professor, Kaunas University of Technology, Lithuania  
 Decandin, J.M., Professor, CRG University, Toulouse I, France  
 Deng, S., Professor, Brock University, Canada  
 Dobson, A., Lecturer in Law University of Wales, Newport Business School, UK  
 Egļite, A., Associate Professor, Latvia University of Agriculture, Latvia  
 Elayoubi, M., PhD Student, CRG University Toulouse I, France  
 Gavriou, I., Lecturer, Ben-Gurion University, Israel  
 Haldin-Herrgard, T., Assistant Professor, HANKEN, Finland  
 Herdman, W.L., Senior Consultant, Northeast Business & Innovation Centre, UK  
 Huang, Q., Lecturer, Manchester Metropolitan University, UK  
 Jamak, A.B.S.A., Senior Lecturer, Universiti Teknologi Petronas, Malaysia  
 Jones, J., MED Lead Faculty, American InterContinental University, USA  
 Kantike, I., Lecturer, Latvia University of Agriculture, Latvia  
 Marshall, V., Associate Professor, Curtin University of Technology, Australia  
 Mayer, C.S., Professor, CEU Business School, Hungary  
 Md Eusof, A.J., Associate Professor, Universiti Putra Malaysia, Malaysia  
 Mol, M.C., Lecturer, Windesheim University of Applied Sciences, The Netherlands  
 Ndhlovu, T.P., Senior Lecturer, Manchester Metropolitan University, UK  
 Normantiane, A., Political Officer, Delegation of the European Commission to Kazakhstan, Kazakhstan  
 Okubena, O., Lecturer, Vaul University of Technology, South Africa  
 Pedigo, K., Head of Executive Development, Curtin University of Technology, Australia  
 Persaud, A., Associate Professor, University of Ottawa, Canada  
 Russ, M., Associate Professor, University of Wisconsin-Green Bay, USA  
 Schwartz, D., Lecturer, Ben-Gurion University, Israel  
 Sivapalan, S., Lecturer, Universiti Teknologi Petronas, Malaysia  
 Solnyskiniene, J., Associate Professor, Kaunas University of Technology, Lithuania  
 Suryani, D.Y., Doctoral Candidate, Glasgow Caledonian University, UK  
 Tiron Tudor, A., Professor, University Babeş-Bolyai, Romania  
 Veloutson, C., Senior Lecturer, University of Glasgow, Scotland, UK  
 Turkey  
 Wang, X., Associate Professor, Jilin University, Canada  
 Xiao, D., Professor, Hubei University, China

## Introduction

*Cleopatra Veloutou*

---

**W**e all start small and most of us aspire to become big. For years, most of the research was focusing on the big and established companies that have a turnover of millions of Euros/dollars/pounds. However, the future of an economy and the growth potential is often hidden in smaller firms that will grow and will contribute in the development of the market in an innovative manner. It is like the potential future giants of the economy. Therefore, the issues that these firms are facing should not be neglected and help should be always provided in these firms. The academic literature has recognised this, and over the years it seems that there is an increasing interest in the study of entrepreneurship as a stand point and of small and medium sized enterprises.

This book is a collection of the work of researchers who presented their original work in two different academic conferences held in Athens Greece in 2008. Academics all over the planet visited Athens to participate in meetings organised by the Athens Institute of Education and Research (AITER). The participants are exchanging ideas and presented their work. This particular collection consists from peer reviewed papers that were presented in their earlier form mostly at the 5th International Conference on Small and Medium Sized Enterprises: Management - Marketing - Economic Aspects, but also at the 2<sup>nd</sup> International City Break Conference. What these twenty one papers have in common and made them appropriate for this collection is that they are all touching a topic related to issues linked with small and medium size companies: The papers are organised in five sections.

Section one consists of four papers and is focusing on the Size and the Development of SMEs. Pessard is questioning whether medium sized firms actually accelerate the pace of commercialisation in the economy and suggests that empirical work is needed in the field. Alternative growth strategies for SMEs are then reviewed by Herdman, who also acknowledges barriers to exit the market. Gavious and Schwartz are investigating market penetration of start-up ventures and whether this information is influencing investors. Finally Berratoniyte examines the role of SMEs in exporting and developing foreign trade in Lithuania.

Section two is dealing with Management and Employment and consists of four papers. In the first paper of this section, Anyalezu uses 2 identifying

techniques to examine the effects of employment in hours following an innovation on a technological aspect. Then Suryani is using a case study approach to explore the perspective on owners-managements towards leadership and suggests that the perceptions in Indonesia are similar in many ways to the perception of entrepreneurs in western countries. Decardin, and Elayoubi are then examining how experts can be used to support the development of SMEs. Staying in the same theme of managers and SMEs, Haldin-Hertzgard is focusing on the way that knowledge is transferred between generations in family firms and is identifying factors facilitating and limiting the sharing. Deng, Wang and Xiao are examining women entrepreneurs in China and are looking on the external environment characteristics that may have an effect on them. Then Marshall and Pedigo are trying to find out how much organisations in the construction industry in Australia know about the safety issues within a statutory context. Finally, Mol is arguing that SMEs should protect their innovations and explores ways that they do it formally.

Financial and Accounting Issues are discussed in section three, which consists of three papers. Okubena is using data from South Africa and investigating the impact of investment appraisal techniques on the profitability of small manufacturing firms. Kantle and Egile are focusing on the development and the financing of small firms in rural areas of Latvia. On the other hand, Huang is actually focusing on small firms that are providing financial services and is examining social capital and customers at business start-up in this particular sector. Finally, Tudor is focusing on SMEs Accounting Standards.

Section four has five articles and is examining the Environment and Policy Making for the SMEs. Russ and Jones examine how SMEs can be supported by regional and national development entities, to facilitate their participation at the Virtual Industry Clusters (VIC). Nethovon appreciates that in South Africa the ownership in terms of the race, the gender and the ethnic origin has remain unchanged for many years and attempts to justify the reasons why this is observed. Jamak, Ehsanf and Sivapalan on the other hand, are evaluating the role and effectiveness of government-organised entrepreneurship development projects and if and how they can improve the living standards of minority subcultures, such as the Orang asli aborigines in Pahang, Malaysia. Two papers are dealing with challenges small and medium firms faced due to changes in the legislation. Solnyskiane is examining some challenges that small enterprises that emerged after the privatisation in Lithuania confront and the role of the effects of the changes in the political environment on these companies. Mayer is examining the impact of the privatisation and new Europe in Hungarian firms. Moving away the macro issues, Dobson is discussing about the impact of legislation on Corporate Manslaughter and Corporate Homicide in the UK on smaller firms.

I certainly hope that you will enjoy the read and it was mind stretching. I am uncertain how many of the firms studied by these researchers will actually grow, but I am always thinking that there is a possibility of that. I suppose that this is positive thinking in business terms!

I look forward seeing you in the future in conferences organised by ATINER, but in other occasions too! The universe of academia is so small really, isn't it?

- Wojcik, A., Aderssa, A. (2004). 'Female Entrepreneurs in a Transitional Economy,' *International Journal of Social Economics*, 31(1/2): 78-93
- Wright, M., Filatovchev, I., Hoskisson, R., & Pang, M. (2005). 'Strategy Research in Emerging Economies: Challenging the Conventional Wisdom,' *Journal of Management Studies*, 42(1): 1-33.
- Zhang, Y. (2003). *Enterprise founded by entrepreneurs and its growth*. Nankai University Press, Tianjin [in Chinese].
- Zhou, N. (2002). 'Analysis of Personality of Women Entrepreneurs', *Technological Entrepreneurship*, (1): 25-27.

### Voluntary or Involuntary? Legal and Hr Implications for an Occupational Health and Safety Voluntary Code of Practice for Smes

*Verena Marshall and Kerry Pedigo*

Small business is a major concern in the construction industry in all Western countries. The industry suffers from an exceptionally high number of fatalities and injuries (Lin & Mills 2001; Cole 2003; Behn 2005; Gangwar & Goodrum 2005; Cable 2006; Choi et al 2006), with the third highest average annual rate of fatal injuries and number of days lost per incident, after the mining industry and agriculture, forestry and fishing (Kowalski & Rehi 2003; Bajpayee et al 2004; Cannon & Girard-Dwyer 2005). The majority of Australian construction firms are small businesses, with 97% of general construction businesses employing less than 20 employees and 85% employing less than five employees (Lin & Mills 2001; Lingard & Holmes 2001). Although small to medium enterprises (SMEs) make up the major portion of construction organisations in Australia, there is a paucity of published research in relation to occupational health and safety (OHS) issues for this group.

Typically, SME organisations "are frequently undercapitalized and depend on continuous cash flow for their continued business" (Cole 2003, 12). Research by Lin and Mills (2001) indicates that these factors influence the smaller operators' ability and motivation to achieve high levels of OHS compared with larger firms which tend to integrate OHS into their management systems. According to Lin and Mills (2001, 137) small firms 'do not feel the need to focus on OHS in their management systems, instead they often believe that the control of risk is the responsibility of employees'. Problems experienced by SMEs relate to statutory requirements to complete extensive formal documentation, which can be highly time-consuming and possibly stretch the boundaries of confidence for employees in very small companies.

This paper presents a brief literature review of OHS in the Australian Construction Industry, and implications for SMEs. Findings are presented from a qualitative research study that examined respondents' awareness of current safety issues in industry and their personal experiences in the SME context. The research also explores SME organisations' views towards the efficacy of a voluntary code of practice (VCOP) in relation to OHS, and ways in which SMEs might implement such a code in their businesses.

Literature Review

In Australia, as in other Commonwealth countries, the regulation of OHS has been relaxed over the last 30 or more years with the industry being given more latitude in assessing and controlling workplace risk (Lingard & Holmes 2001). According to Cole (2003), OHS legislation is generally fragmented and uncoordinated, with an absence of national standards governing all the States and Territories. A literature review undertaken by Pillsay and colleagues (2006) revealed that the different parties involved in construction projects, that is, owners, clients, architects/engineers, general contractors and sub-contractors, exercise varying levels of influence on site safety based on professional interests, with little coordination between them. Under the traditional 'design-bid-construct' project structure, subcontractors exercise the heaviest influence over the root causes of accidents, whilst architects exercise the least.

The industry is highly competitive and characterised by unsteady employment, and multi-disciplinary trades working simultaneously on the same work site with different contractors, many of whom represent small family businesses. Typically, workers are employed on one-off projects resulting in high labour turnover and a constantly changing work environment (Ringgen et al 1995; Cole 2003).

Occupational health and safety (OHS) concerns at the project level relate mainly to the development and implementation of systematic, well-defined approaches towards OHS risk assessment and management (Lingard & Holmes 2001; Saksvik & Quinlan 2003). Development of closer collaboration is sought between the key parties to a construction project, including clients, professional advisors, designers, principal contractor, subcontractors and/or self-employed persons (Ringgen et al 1995; Lingard & Holmes 2001; Loushine et al 2006). Such collaboration also seeks to facilitate the creation and maintenance of organisational cultures which value employee safety and well-being (Lingard & Holmes 2001; Cole 2003).

Processes found to be useful for encouraging workers to contribute ideas and suggestions include pre-construction review meetings to help identify areas of concern, 'tool box' meetings during construction, and safety committees, consisting of employer representatives, workers and subcontractors and other relevant groups (Lin & Mills 2001). Smith (2005) advises that in some organisations employees rotate on the safety committee every month, to give everyone a chance to participate. Examples of other participation methods used by construction companies can be found in Minter (2001), Smith (2005) and Cable (2006).

Running small construction businesses in complex industrial contexts presents resourcing issues that may be influenced, but not necessarily shared, by their larger business counterparts and stakeholders. As stated, SMEs may appear to have a 'fatalistic resignation to OHS risks being an unavoidable part of the job' (Lingard & Holmes 2001, 217).

Emerging from the above is a possible solution inherent in the concept of a 'voluntary code of practice' (VCOP), driven not by legislation but rather the

...overarching aim of creating a strong safety culture among all project stakeholders (Fleming, Lingard & Wakefield 2007, 3). As defined by the International Labour Office (1992, 2), a code of practice is represented as a 'document offering practical guidance in the policy and standard setting in occupational safety and health for use by governments, employers, workers and any other persons involved in the construction process in order to promote safety and health at the national level and at the level of enterprise'. The concept suggests 'best practice' in the management of safety, articulating management actions for key stakeholders in a project, and providing a framework for an appropriate allocation of responsibility for safety in construction projects (Fleming, Lingard & Wakefield 2007). The provision of codes of practice in support of legislation may render the latter easier to interpret and enact (Dunham et al 2002). The question remains whether placement of the term 'voluntary' before code of practice draws attention to strategies for 'best practice' or serves as a non-too-convincing veil in front of the force of legislation. The objective of this research is to explore the meaning and practicality of a VCOP for SMEs, and resultant motivation to run towards or away from its implementation.

Methods

In this preliminary study, face-to-face semi-structured interviews were conducted with a range of key personnel in ten (10) SMEs operating within the construction industry in Western Australia. Of this number, five interviews were undertaken with designer organisations (Designers) who had, on average, 35 employees, while a few had as little as two employees. Some of the businesses studied used up to 400 sub-contractors on a regular basis. The remaining five interviews were conducted with construction organisations (Builders) directly employing five to fifty sub-contractors, with the average business employing approximately fifteen personnel.

Data from the ten interviews were obtained from lengthy, in-depth discussions with the interviewees. This number of interviews, while not large, provided sufficient opportunity to undertake preliminary exploration of the issues surrounding safety initiatives and a VCOP for SMEs, through a qualitative study. This initial enquiry is a necessary step in the absence of empirical research, either qualitative or quantitative, in this area. The findings from this study may contribute to a platform for future research, drawing data from a wider field of subjects.

Data gathered for this study were analysed by coding of interview transcripts to explore emergent themes and key categories describing common views and practices. The QSR NVivo 7 software is a data management package (as opposed to data analysis package for quantitative data) and was used to store, sort and facilitate the coding processes and subsequent categorisation of data. Through the software, sentences were coded to maintain context and meaning in themes that emerged when examining the data for



frequency of occurrence, similarities, differences and associations with linked responses. Based on guidelines developed by Holsti (1969) and Burns (1995), a category's significance was determined on emerging ideas and the frequency, or number of times mentioned, of a theme or topic.

### Findings

The results of categorisation and subsequent analysis are presented below. The findings include: perceptions of SME designers and builders in relation to incentives for the implementation of a VCOP; factors creating resistance to implementation; suggested strategies for such implementation in the event of its adoption; and perceived support, as well as absence, for those strategies in the construction industry.

#### *Incentives for an Industry-based VCOP*

The scope for provision of incentives featured significantly in the interviews. Five major areas for incentives emerged from the data as opportunities to encourage support for a VCOP. The most cited response was accreditation, followed by the 'Worksafe' 'blue card' system, indemnity insurance, enhancement of industry reputation, regulatory and legal obligations, as well as the possibility of a 'star system' approach, similar to that used in the Environmental Impact Campaign.

Five respondents (3 Designers and 2 Builders) considered that a VCOP aligned with industry accreditation would encourage compliance. Respondents stated they would market the VCOP as a factor towards gaining accreditation, thereby providing evidence of acceptability and achievement of higher safety standards. Although accredited providers were seen to be more costly, they were considered preferable to many respondents when it came to safety. For example, as stated by one respondent:

*...it does make you more aware of how you should do things, even like changing a light bulb. It cost us three hundred and fifty dollars but it does take that pressure off and when you think about it, 'cos I've been up ladders changing light bulbs and it doesn't take much to fall off. You become a statistic, so I think in that sense it's very positive. Costly but positive.*

A further six respondents (4 Builders and 2 Designers) referred to the 'blue card', currently implemented by Worksafe, with mixed reactions to the effectiveness of this accreditation system. Most respondents were supportive and users of the system, considering it offered recognition within the industry of the need for safety and adherence to standards of care.

Other respondents were less impressed with the 'blue card' and suggested that the 'blue card' system represented a 'bottom line' approach to safety rather

than a higher standard. Further, the ability to gain the 'blue card' fraudulently through the Internet was acknowledged; that is, the absence of verification of whether the person undertaking the course for the blue card is actually the signatory to the completion documents. In the words of one respondent:

*Why introduce something like that and then let it become such an easy thing to attain? It shouldn't be that easy. Everybody should have to turn up. Everybody should have proof that they can read and write...that they actually answered the questions.*

Four respondents (all Designers) put forward the suggestion of an indemnity on insurance premiums upon verification of a company's adherence to the VCOP. These respondents believed that such an incentive would reflect the seriousness by which industry viewed the VCOP, and in turn its adoption would be given consideration by contractors and other stakeholders in their work-related decision-making.

Following on from the above, four respondents (2 Builders and 2 Designers) stated that the success of a VCOP lay in its potential as a reputation-enhancer for companies that adopted it. Closely aligned with the proposed strategy for inclusion of adherence to the VCOP as a criterion for tender selection, one respondent stated:

*It would have to guarantee that we'd win more work. I guess that would be the incentive for us, to make us more competitive so that we'd be given preference over other companies. That would be the main incentive.*

Six respondents (4 Designers and 2 Builders) commented on awareness created through legislation and regulations. However, most of these respondents described the legislation as complex,

*...it gets to basically court room stuff, you must...if people have to do something they will but if they don't, they won't.*

The need to meet legal responsibilities, in particular duty of care, was put forward to by five respondents (3 Builders and 2 Designers). While an acceptable level of risk was acknowledged in many aspects of construction, the legal risk associated with not providing a safe place of work was considered by these respondents to be unacceptable...

*...we obviously wish to ensure that our staff are safe but are also aware that if someone dies during their work then we are liable and culpable so that's an incentive in terms of support.*

A further suggestion put forward by a Designer was the adoption of a 'star system' currently used to indicate environmental accountability amongst companies as part of the implementation of a VCOP. Implied in this suggestion was Government regulation of the industry, and putting in place a system of building plan approvals aligned with achievement of acknowledged superior performance in terms of safety through a star system.

#### *Resistance to implementing the VCOP*

There were two main factors associated with resistance to implementing the VCOP: costs and increased bureaucracy. In relation to the former, eight respondents (4 Builders and 4 Designers) cited cost as the greatest challenge to the success of the VCOP, particularly relating to the 'voluntary' situation. While responding positively to the concept of a VCOP in theory, the practical aspects of providing training, overheads for having employees take time to undertake the training, and payments required for the infra-structure associated with a VCOP would, in their view, prohibit the reality of its acceptance. As stated by a respondent:

*If it costs the company too much to comply, and if it had not teeth, you would have people who would not comply.*

Nonetheless, respondents also questioned why adherence to a VCOP would necessarily incur any further costs than adherence to legislative requirements. In other words:

*I can't see anything that would be contained in the voluntary code that would force builders or organisations like ours to spend any more money than they have to meet the legislation anyway.*

Four respondents (3 Builders and 1 Designer) stated that an increase in bureaucracy or paperwork, perceived or real, would create resistance to the adoption of a VCOP. In particular, concern was expressed that completion of required 'paperwork' to verify adherence to the VCOP would become the focus, rather than actual adherence to the VCOP:

*...it seems like you've gotta have a piece of paper that proves that you've done something all the time, not that you are doing it...*

#### *Strategies for Adopting and Implementing a VCOP*

Six suggestions were put forward by respondents as strategies for adopting and implementing a VCOP. These included: government-funded safety training; industry consultation; ease of accessibility to the VCOP; development of web-based systems in support of the VCOP; monitoring of the VCOP's

usage; and inclusion of verified adherence to the VCOP as an essential criterion for tender selection.

A majority of eight (8) respondents (4 Designers and 4 Builders) supported the concept of safety training as the best approach for adopting and implementing a VCOP. It was suggested that safety training for the construction industry should begin during secondary education (high school), so that it would "...make it a part of the culture of life".

Concern was raised that small firms found the cost of having employees in training and paying for that training prohibitive. Respondents stated that they know "...what we're trying to do...and commend it". However, as stated by one builder:

*At the moment we have to go and get paid outside contractors to teach us, you know, all about occupational health and safety. But a return from government would be good.*

Half of the respondents (3 Builders and 2 Designers) also commented on the need for funding support for training from government and industry agencies. The availability of funds would allow participation of groups in practical seminars or on-site demonstrations (as opposed to discussions), networking amongst industry stakeholders:

*...we could get out and be practical, rather than have a discussion...really getting to the nitty gritty.*

In-house training was also identified as an important need, enabling companies to have control over the quality of content and judgment as to whether objectives were met and achieved or not. Inductions were cited as useful for raising initial awareness, and respondents stated that you could not have too many of them. If clients provided their own inductions on top of the company's induction, that was fine. Too much training was considered to be far better than none at all, and leaving it "...to chance, if we come across it". Strong emphasis was also placed by respondents (4 Designers and 3 Builders) on improving current training, and regulating the standards to be achieved by such training, so as to avoid occasions similar to when:

*...they ran over all the witches hats and dropped two 44 gallon drums off the pallet and nearly ran over the instructor... but got the ticket....*

Six respondents (4 Designers and 2 Builders) commented on the need for industry consultation prior to and during the implementation of a VCOP. The opportunity to review the VCOP, comment on its effectiveness and the mechanism for implementation, would:

*...be a form of easy learning about what its objectives and chance of application is.*

The complexity of the content of some codes, rules and regulation were commented on by half of the respondents (4 Designers and 1 Builder). In their opinion, emphasis should be on practical action required, avoiding use of technical jargon. The use of 'plain language' was also required, along with 'conciseness in quality, as opposed to quantity of content, otherwise

*...a two hundred page manual probably isn't going to be top of the priority list.*

Concern was expressed regarding inherent costs that had previously been overlooked in seeking professional advice on the implications of some industry rules and regulations. There was also the issue of time involved in obtaining this advice, and disseminating resultant information to employees. These respondents stated that repetition of such experience had to be avoided, as previously

*...one of the guys said if we'd been a bit higher up he would have jumped out of the window but the second level wasn't high enough - to get away from the paper.*

All five respondents from the design industry suggested the use of web-based or technology-driven presentation for the VCOP to facilitating accessibility of the VCOP. Advantages of such systems included opportunity to provide interactive training programs through E-learning throughout Australia, provision of information through internally within companies through intranet, and distribution to wider audiences through internet and email.

*Obviously anything that was user-friendly with that would be an advantage so we can easily distribute information.*

Monitoring adherence to the VCOP was also suggested by five respondents (4 Designers and 1 Builder). There was a sense that some stakeholders would not comply with a voluntary code, and resultant monitoring for compliance would be necessary, but difficult. In the words of one respondent:

*... 'voluntary' by definition can be ambiguous. And if it's not policed or enforced you'd have to wonder what the strength of it would be. You'd have to give it some teeth...*

While half of the respondents expressed the need for monitoring, they did not provide strategies for how the monitoring should be undertaken. Nonetheless, the following strategy relating to tender selection provides some opportunity to consider the aspect of monitoring further.

Five respondents (3 Designers and 2 Builders) suggested that tender selection should be linked to compliance with the VCOP, in support of its adoption. In selling the concept of a VCOP to the 'end user', property owners and government departments could stipulate evidence of adhering to the VCOP as an essential criterion within tenders. Respondents considered that the inclusion of this criterion would 'certify' the legitimacy and relevance of the VCOP, and companies would look to ways of providing that evidence.

*With if you don't, you don't get the job. You could call that incentive.*

#### *Perceived Support for Implementation of a VCOP in the Construction Industry*

Respondents (Builders and Designers) cited varying levels of perceived support currently available to them for the implementation of safety standards within their industry. This support was said to originate from the Government agency, Worksafe, consultants, and unions. Perceived level of support varied from significant to no support at all.

Seven respondents (4 Builders and 3 Designers) stated that consultants provided the greatest source of support in relation to safety knowledge and assistance. Such consultants were frequently brought in on an 'as needed' basis in those companies that were considered too small to employ dedicated occupational health and safety staff. The consultants are used to develop and administer management plans within the companies, visit sites, monitor activities, and facilitate regular (usually monthly) meetings. The major criterion against which consultants are chosen for engagement is their understanding of current codes of practice, regulations and quality-driven work systems.

*...we rely on regulations, and we also rely on our consultants and sub-consultants to go away and bring that information back to us.*

#### *Perceived Absence of Support and Presence of Uncertainty*

Some respondents (3 Builders and 3 Designers) also reported that they did not receive any support in implementing safety standards in their industry, and did not anticipate any further support in favour of a VCOP. These respondents reported that the information was out there, but they had to get it themselves. Further, it was perceived that downsizing and outsourcing of functions within government agencies (e.g., Department of Housing and Works) meant that safety rules, guidelines and procedures continued to be documented, but there was little practical help in transferring that knowledge from policy into practice. Those who expressed the absence of support did not offer suggestions regarding what support they would like either. Instead, a magnitude of uncertainty was evident in responses, reflected in the following example:

*There doesn't seem to be a standard, if you'd like to say, a standard way of how we think, this is what we think is the safe way of doing something, so this is the standard you should aim for.*

### Discussion

Issues and strategies for encouraging small business to give higher priority to safety arise from the literature, and are supported by the findings of this study. Examples of incentives towards safe practice, regarding the need for a VCOP, included scrutiny by Worksafe and the Master Builders Association, insurance indemnities, requirement for licensing, and fear of litigation. Respondents also stated that the VCOP would not compensate for the need to provide contractors with correct tools, training and safety equipment to do the job, as well as sufficient time to get the job done.

Management of client expectations was also put forward as a requirement for ensuring the VCOP makes an impact on construction industry stakeholders. There was an expressed tension between attempting to meet the practical and financial deadlines of clients, without placing builders in a position of potential litigation for failing to do so.

Perceived incentives (un)number factors of resistance towards the implementation of a VCOP amongst SME respondents in this study. The resistance factors, costs and increased bureaucracy, are nonetheless significant given the size and resources available to this sector of the construction industry. Further, it is apparent that the competitive bidding system is a significant contributor to OHS short-cuts. Greater weight could be given to tender submissions that include health and safety considerations rather than awarding tenders on the basis of low price alone. This change would send a message to SMEs that their commitment to OHS is recognised and valued.

The attitude of 'Fatalism', inherent in responses by some interviewees, may be changed through involving SME owners in participative measures such as the safety committees described in Lin and Mills (2001). However, time pressure faced by SMEs is another acknowledged factor that affects their willingness to participate. Consideration also needs to be given to the capabilities of SMEs in regard to provision of documentation required by OHS legislators. It is likely that the current 'one size fits all' approach is not sufficiently cognisant of the variation in OHS concerns for large construction organisations engaged in complex operations involving large numbers of employees and subcontractors, compared with small companies with less than 20 employees engaged in a single or a small number of operations.

*...it's not rocket science what we do... it's just making sure people aren't rushed.*

### Conclusion

From the responses to the ten interviews, it appears that there are more perceived advantages to a VCOP, than disadvantages. Respondents acknowledged incentives for a VCOP incorporating accreditation, possibility of indemnity insurance, enhanced reputation of companies, support for meeting legislative requirements, and opportunity for a 'star system'. Concerns with regard to a VCOP were also raised, namely increased costs and documentation. Strategies for adopting and implementing a VCOP were put forward, and these included training, industry consultation, accessibility, provision of web-based systems, monitoring, and inclusion in tender selection. Sources of support for a VCOP within the Construction Industry were also identified by respondents, along with consideration of the uncertainty surrounding its implementation. Overall, respondents acknowledge the complaints around the concept of a VCOP, but also move on to identify the possibilities for safer practice through such its conception. As stated by one respondent, in the absence of a VCOP, it will be left to the events of accidents to establish awareness of safety issues on construction sites, and accidents will therefore always keep happening.

### Bibliography

- Bajpayee, T.S., Rahak, T.R., Mowrey, G.L., & D. K. Ingram. (2004). 'Blasting injuries in surface mining with emphasis on flyrock and blast area security.' *Journal of Safety Research* 35: 47-57.
- Behan, M. (2003). 'Linking construction fatalities to the design for construction safety concept.' *Safety Science* 43(3): 589-622.
- Burns, R.B. (1995). *Introduction to Research Methods*, 2<sup>nd</sup>ed. Melbourne: Longman Australia.
- Cable, J. (2006). 'Hammering away at construction hazards.' *Occupational Hazards* 68(3): 29-32.
- Camm, T. & J. Grand-Dwyer. (2005). 'Economic consequences of mining injuries.' *Mining Engineering* 57(9): 89-92.
- Choi, S.D., Kappo, A.E. & W.W. Cole. (2006). 'Educating construction safety professionals: A collaborative model for the 21<sup>st</sup> Century.' *Professional Safety* 41(7): 41-45.
- Cole, T. (2003) *Final Report of the Royal Commission into the Building and Construction Industry: Summary of Findings and Recommendations Volume 1 (Cale Royal Commission Report)* Canberra: Australian Government Printing Service.
- Durham, B., Culvenor, I. & P. Rozen. (2002). *Workplace Health and Safety in the Building and Construction Industry: Discussion Paper 6*. Canberra: Australian Government Printing Service.
- Fleming, T., Lingard, H. & R. Wakefield. (2007) *Guide to Best Practice for Safer Construction: Principles*. Brisbane: Cooperative Research Centre for Construction Innovation.

Why and how SMEs protect their innovations

Mischa C. Mol

A group of enterprises that has received much attention the last few years are the small and medium sized enterprises (SMEs), which are, according to Nooteboom (1994)<sup>5</sup> good at incremental innovations. However, the R&D investments and patent portfolio's of SMEs are relatively small. According to the European Patent Office (2004)<sup>6</sup>, two thirds of the potentially patenting SMEs, that is SMEs in the production sector that do conduct R&D, do not apply for patents.

Earlier research by the European Patent Office (1994)<sup>7</sup>, Hall et al. (1999, 2000)<sup>8</sup>, Kitchin and Blackburn (1999)<sup>9</sup>, Brouwer and Kleinknecht (1999)<sup>6</sup>, Mansueti (2002)<sup>7</sup>, and many others has shown that innovative SMEs prefer alternative forms of protection rather than applying for an expensive patent. Possible alternatives are: confidentiality clauses; investing in trust relationships; technological copy protections; maintaining lead time advantages; etc. Literature on innovation protection by SMEs mainly focusses on reasons for not choosing a patent, while reasons for preferring one alternative over the other remain insufficiently studied. Also, hardly anything has been written on the consequences of different protective actions on the performance of an innovation. Kitchin and Blackburn (1999)<sup>9</sup> define four

Gangwar, M. & P.M. Goodrum. (2005) 'The effect of time on safety incentive programs in the US construction industry.' *Construction Management and Economics* 23, 851-859.

Holst, O.R. (1969). *Content Analysis for the Social Sciences*. Philippines: Addison-Wesley.

International Labour Office. (1992). *Safety and Health in Construction Code of Practice*. Geneva: International Labour Office.

Kowalski, K.M. & L.L. Reith. (2003). 'Out of the Box Approach to Mine Safety.' *Professional Safety* 48(1): 21-27.

Lin, J. & A. Mills. (2001). 'Measuring the occupational health and safety performance of construction companies in Australia.' *Safety Science* 19(3/4): 131-138.

Lingard, H. & N. Holmes. (2001). 'Understanding of occupational health and safety risk control in small business construction firms: barriers to implementing technological controls.' *Construction Management & Economics* 19(2): 217-226.

Loushine, T.W., Hoonakker, P.L.T., Caryon, F. & M.I. Smith. (2006). 'Quality and Safety in Management.' *Total Quality Management* 17(9): 1171-1212.

Minter, S.G. (2006). '2006 National Safety Survey: Safety's Satisfying Journey', [www.occupationalhazards.com](http://www.occupationalhazards.com).

Pillay, J., Ryan, R., Charles, M., Brown, K., Lingard, H. & N. Bismas. (2006). *Safer Construction: From Concept to Completion. A Literature Review Report No. 1*, Fleming T., Ryan, N. & Wakefield, R. (Eds) Brisbane: Cooperative Research Centre for Construction Innovation.

Ringen, K., Seegal, J., & A. England. (1995). 'Safety and Health in the Construction Industry.' *Annual Review of Public Health* 16, 165-188.

Saksyik, P.O. & M. Quinlan. (2003). 'Regulating systematic occupational health and safety management: Comparing the Norwegian and Australian experience.' *Relations Industrielles* 58(1): 27-33.

Smith, S. (2005). 'Calpine: Safety is personal.' *Occupational Hazards* 67(10): 19.

Nooteboom, B. (1994). 'Innovation and diffusion in small firms: Theory and evidence.' *Small Business Economics*, Vol. 6 (3): 327-347.

European Patent Office (1994). *Utilization of Patent Protection in Europe*, European Patent Office, Munich.

Hall, M., Oppenheim, C., Shean, M. (1999). 'Barriers to the use of patent information in UK small and medium-sized enterprises. Part I: Questionnaire survey.' *Journal of Information Science*, Vol. 25 (5): 335-350.

Hall, M., Oppenheim, C., Shean, M. (2000). 'Barriers to the use of patent information in UK small and medium-sized enterprises. Part II: Results of in-depth interviews.' *Journal of Information Science*, Vol. 26 (2): 87-99.

Kitchin, J., Blackburn, R. (1999). 'Intellectual property management in the small and medium enterprise (SME)'. *Journal of Small Business and Enterprise Development*, Vol. 4 (4): 327-335.

Brouwer, E., Kleinknecht, A. (1999). 'Innovative output, and a firm's propensity to patent'. *Research Policy*, Vol. 28: 615-624.

Mansueti, E. (2002). 'Patenting behaviour by SMEs'. *International Journal of Innovation Management*, Vol. 2 (9): 574-583.

Kitchin, J., Blackburn, R. (1999). 'Intellectual property management in the small and medium enterprise (SME)'. *Journal of Small Business and Enterprise Development*, Vol. 4 (4): 327-335.