

影響員工綠色創造力之跨層次分析-以環保產業為例

A Cross-Level Examination of Factors of Effecting Employees' Green Creativity: Taking Environmental Industry as an Example

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摘要

「環保產業」與「綠色環保科技」是今日各國積極面對的環境議題，由單一項的環境保護發展到消費者、製造供應鏈管理及綠色產品研發和生產。然而，員工綠色創造力所扮演是一個企業保有綠色競爭力的重要角色。況且，台灣環保產業面對日益競爭的商業環境，環保產業廠商必須不斷地創新以維持競爭優勢是未來重要的經營課題與趨勢。因此，本研究將結合創造力人格特質與人力資源管理的觀點，探討影響員工綠色創造力的因素。

本研究採用問卷調查法，以經濟部工業局環保產業資訊網及通過ISO14001驗證標準之廠商為抽樣架構。在分析方法上，利用階層線性模式，分層逐次探討影響員工綠色創造力的關鍵因素，分析結果如下：1.員工具有高創造力人格特質對員工綠色創造力有正向顯著影響。2.高階主管的支持、團隊合作、綠色創意的培訓會對員工綠色創造力有正向顯著影響。3.高階主管的支持與員工授權對創造力人格特質與員工綠色創造力之關係產生正向的干擾。

關鍵字:環保產業、創造力人格特質、人力資源管理、綠色創造力、階層線性模式。

第一章 緒論

本研究旨在探討環保產業的員工創造力人格特質、人力資源管理，其與員工綠色創造力之關聯性。本章主要分為四節，第一節說明本研究之相關背景，第二節說明從事本研究之原因及重要性，第三節說明本研究之研究目的，最後一節則帶出本研究之研究流程。

第一節 研究背景

我國產業綠色環保的進程，可追溯自政府協助產業推動管末處理(1982)及工業減廢(1990)開始，並於1994年全力導入清潔生產(cleaner production)後，更呈現較清晰之脈絡；另伴隨二十一世紀綠色競爭力與永續發展的時代來臨，與環境議題相關之事物亦趁勢興起(陳文輝，2008)。自2004年以來，能源價格高速上漲，導致全球經濟危機，加上京都議定書自2005年2月16日正式生效後，國際溫室氣體減量壓力日增，各國皆致力推行各項環保政策。我國在此世界潮流中，亦積極規劃發展策略，於2008年公布節能減碳的總體政策願景，並依據「永續能源政策綱領」，訂定2020年與2050年減量目標。行政院亦於2010年推動多項綠色環保政策與措施，其密切關係著國家與企業之永續發展。於此同時，國際間對於綠色環保之管理趨勢，已逐漸由國家、區域層級之高階協商向下延伸，轉為透過國際產銷供應鏈之要求，擴展至企業層級，並直接影響企業的經營活動(朱興華，2010)。

「環保」一詞已由過去的化工原料等高污染製造廠的重要議題，改變為消費者產品品質的一環，因此，企業需要積極掌握國際相關環保規範與環境管理標準的動態，並承擔更多環境問題的社會責任，以積極的態度面對利益相關者，其中，消費者的覺醒與需求，往往亦是環保產業的推動力之一；不管是綠色產品、綠色管理或綠色生產力，企業決策者必須與國際環保潮流接軌，才能保有綠色競爭力(呂穎彬，2008)。由文獻資料顯示，2004年全球環保技術、產品及服務市場總產值為6,285億美元，比2003年的5,960億美元成長了5.5%，此舉顯示全球環保產業在近幾年皆以穩定速率往

上成長。2005年我國環保產業產值約37.4億美元，較2004年同期成長約4.6%，從產值結構來看，2005年環保產業的製造業占比約40%(環保設備及材料製造業14.4%、資源再生產品製造業25.6%)，環保技術服務業約60%。台灣環保市場的規模，根據國際環境商業顧問公司統計，在1998年的產值為32億美金，此後呈現穩定成長的狀態。到2006年已有近51億美金的規模。而2010年整體產值則接近62億美元(江誠榮、陳龍吉，2009)，顯見環保產業已在商業領域中扮演著相當重要的角色，不只在經濟上占有舉足輕重的地位，與民眾的生活更是密不可分。

回顧環保產業的相關研究，有從產業發展(賴明亮，2009)、產業結構(曾世豐，2007)、經營策略(廖宗銘，2007)、國際行銷(張以燦，2004)等角度來探討。從這些文獻中發現，環保產業的研究雖多，但在過去環保產業的文獻中有關綠色創造力的研究卻有限，從產業的面向來看，早年台灣社會較重工作效率，而不重視創造力，然而現在大家對創造力的重要性都有共識，產業界、研究機構開始強調與尊重員工的創意，許多評論家認為，如果組織要獲得競爭優勢，提高員工的創意表現是一個必要的步驟，Amabile et al. (1996)發現組織因素及主管行為會鼓勵員工創造力。Ramus (2002)認為，對於企業要如何永續經營，需要記取一些過去失敗的教訓。企業的永續發展需要企業致力於書面環保政策聲明及直線主管支持員工的環境行動。當永續的環保政策已發展後，更需要清楚地溝通，使員工更敏感於主管對生態行動的支持及他們關心環境價值的創造。而企業的創新可從製程和產品著手，將環保理念納入其產品設計、包裝，以形成產品差異化。因此，具備綠色創造力的企業將能擁有核心的競爭能力，在產業裡建立起難以動搖的地位。由此可見，以員工綠色創造力的觀點結合環保產業是一個值得深入探討的議題。

台灣環保產業面對日益競爭的商業環境，環保產業廠商的經營績效除了取決於經營能力、使用自身的知識和科技，提供創新性的產品和服務之外，能否永續經營，員工綠色創造力扮演了相當重要的角色。透過員工綠色創造力可以推動環保產業廠商全球增長、增加價值和創造特殊的綠色消費體驗，使環保產業廠商更加成功。換句話說，這種環保產業廠商的成功

促進了業務循環、客戶忠誠度和財務績效方面的持續提升。如果此時環保產業廠商沒有能力做出持續性的創新，將使自己失去市場競爭的能力。因此，在此產業的激烈競爭與景氣衝擊下，員工綠色創造力，將會是環保產業廠商維持競爭優勢與良好績效表現的關鍵。

第二節 研究動機

鑑於全社會更加了解和關注環境議題，以及越來越嚴格的立法和外部利益相關者更多挑剔的眼光，企業已經認識到了他們必須為環境負起更多的責任，因此，企業可能如何建構他們的員工綠色創造力增強機會來永續發展已是最重要的。綠色創造力是創意、專業知識、智略和解決問題之能力的有效組合。這些至關重要的能力反映於員工的技能和奉獻精神。它使企業能夠支援所擁有的客戶而成功，並保證業務成長。綠色創造力促使企業所提供的產品、服務和創新能提升人們生活的質量。同時，也使企業脫穎而出(江森自控，2008)。許多評論家認為，如果組織要獲得競爭優勢，提高員工的創意表現是一個必要的步驟(Amabile, 1988; Devanna and Tichy, 1990; Kanter, 1983; Shalley, 1995)。員工建議新穎與實用的產品、想法或程序，產生環保創意的想法，而這些提供給組織後續開發和執行綠色方案時的重要素材(Amabile, 1988; Staw, 1990; Woodman, Sawyer and Griffin, 1993)。啟動和實施這些綠色創造力提升一個組織的能力來應對機遇，從而適應、成長和競爭(Kanter, 1983, 1988; March and Simon, 1958; Van de Ven, 1986; Van de Ven and Angle, 1989)。顯見在環境保護日趨重要的情況下，員工綠色創造力亦是企業重要的課題之一。

從過去綠色創造力的相關文獻探討中可以發現，雖然有關綠色創造力方面的研究很多(Ramus, 1997; Ramus and Steger, 2000; Ramus, 2001; Ramus, 2002)，但多為探討組織及主管的因素對綠色創造力的影響，卻鮮少將焦點著重在人力資源管理層面及員工個人創力特質的探討。而在目前有關綠色創造力的研究當中，大部分是針對環境管理的龍頭公司，對於環保產業裡的綠色創造力卻鮮少做深入的探討。因此，本研究認為在過去相

關研究中對綠色創造力探討的議題甚少。

回顧過去創造力的相關文獻中，組織及個人因素都會影響員工的創造力 (Hostager, Neil, Decker and Lorentz, 1998)。觀察強調綠色創意文化為核心的企業人物專訪報導中，我們可以發現能使他們成為永續產業的標竿關鍵，一部分和他們的個人特質與價值觀有所關連。回顧創造力人格特質相關的文獻中，學者們大都一致的認同個人的人格特質與創造性成果的關聯性(Barron and Harrington, 1981; Davis, 1989; Martindale, 1989)。因此，本研究欲探討個人創造力人格特質對員工綠色創造力是否有影響性，此為本研究動機之一。

雖然研究已經開始探討組織環境因素對個人創造力表現的影響 (Amabile, 1979, 1982; Amabile, Goldfarb and Brackfield, 1990; Amabile and Gryskiewicz, 1989; Amabile, Hennessey and Grossman, 1986; Carson and Carson, 1993; Koestner, Ryan, Bernieri and Holt, 1984; Kruglanski, Friedman and Zeevi, 1971; Shalley, 1991, 1995)。但大部分研究進行在實驗室，並遵循「內在動機」的觀點。個人被認為最具創造力當擁有較高水平的內在動機，也就是說，當員工感興趣於參與活動的前提下(Amabile, 1983, 1987; Shalley, 1991)。另一方面，人力資源管理實務被認為是塑造組織競爭優勢的有效工具，組織若能採取某些人力資源管理實務，便能夠產生較好的績效(Wright and Bosewell, 2002)。學者認為有加強人力資源管理的必要性以使環境管理更有效執行(Sushi and Shoal, 2004; Wee and Quazi, 2005)。Fernandez, Junquera and Ordiz (2003)亦強調說明環境管理是人力資源密集、是一個複雜的過程，需要人力資源管理的幾個因素支持始能夠促進組織綠色環保行動成功施行。因此，本研究欲探討組織人力資源管理因素對員工綠色創造力是否有影響性，此為本研究動機之二。

本研究同時納入個人與團隊層次分析，此為本研究動機之三，主要考量有兩點。首先，變項間的關係在個人與團隊層次可能是不同的，既使團隊層次僅是個人數值的加總，變項間的關聯性仍可能有所差異(Ostroff, 1993)。諸多學者(Roussear, 1985; Klein, Dansereau and Hall, 1994)認為驗證變項間的關係是否會在不同層次上有跨層次模式建構，是組織研究發展的

重要方向，因此研究中若僅納入單一層次分析，將無法在相同研究情境下比較不同層次變項間關聯性可能之異同，此亦是本研究進行跨層次分析之因。

第三節 研究目的

本研究透過文獻回顧，發現企業可以發出值得嚮往的事物信號及提供組織的鼓勵措施給員工，讓員工願意採取環境的行動。例如，環保政策和主管的支持行為可以發出組織支持的信號(Daily and Huang, 2001; Amabile et al., 1996; Ramus, 2002; Jabbour and Santos, 2008; Perry-Smith, 2003; 2006)，以及 Fernandez et al. (2003)整理過去環境管理方面的研究後指出，從資源基礎觀點，人力資源管理的不足可能是重要的障礙在環保行動的過程。然而，由於一些著作就這方面的問題探討仍然是有缺乏的，過去的研究包含幾個議題，如：管理職責、組織參與環境議題、環境培訓和激勵，可能對成功的企業環境策略是非常重要的。不過，似乎仍缺乏定性和定量方法的應用。再加上，只有 Daily and Huang (2001)提出了一個環境管理系統和人力資源因素的概念模型，有助於促進環境管理方案。而隨著綠色經濟興起，環境保護已成為企業責任，更可以說，從責任轉變為企業營利的新機會，企業所應思考的是如何在綠色經濟中取得競爭優勢。從資源基礎理論的觀點來看，要維持競爭優勢，須取得關鍵的資源，又組織中的資源以「人」最為關鍵，故企業可利用擁有綠色知識、技術和能力之人才，來幫助企業成為有競爭力之綠色企業，因此，本研究欲透過文獻的修改，釐清一些人力資源方面的內容可能會使員工更有綠色創造力。

員工可說是企業重要的資產，具有創造力的員工能提升公司競爭力與公司成功有絕對的關係，所以，了解綠色創造力的員工具備何種特質，能幫助企業組織發揮員工的特長，進而提高公司環境績效與表現。因此，本研究欲以員工創造力人格特質及人力資源管理的範疇，這兩方面來以環保產業做實證的探討。

基於上述的研究背景與動機，本研究以參加經濟部工業局環保產業資

訊網的會員及通過ISO14001認證之廠商為抽樣架構，以環保產業廠商為抽樣對象。本研究試圖透過衡量各環保產業廠商的員工對自己公司人力資源管理活動的知覺，來衡量公司本身的人力資源管理。再加上環保產業廠商的員工對自身創造力人格特質的衡量，此兩者對員工綠色創造力的影響。在分析方法上，本研究企圖使用多層次分析理論(multilevel research)來探討不同層次因素對環保產業員工綠色創造力的影響。雖然早在1930年代前後，學者在理論建構時便已經注意到多層次的議題，然而，在實證研究上，縱使同時考量群體分析層次與個體分析層次，研究者亦僅止於跨層次的資料收集(Neuman and Wright, 1999)。且研究者立於群體層次的分析單位討論變數之間的關係，研究者所得到的結論仍然是屬於單一分析層次(即群體層次)，不能稱之為跨層次分析(林鈺琴，2005)。直到最近研究者才開始藉由跨層次分析模式討論不同群體因素對個體行為影響(Ostroff, 1992; Vancouver, Millsap and Peters, 1994)，而其中最受研究者注意的分析方法為階層線性模型，此統計方法可同時檢驗個人、群體與組織層次效果。綜合上述，本研究主要採用階層線性模型(hierarchical linear modeling, HLM)來驗證以下的研究目的：

- 一、員工創造力人格特質對員工綠色創造力的影響；
- 二、人力資源管理因素對員工綠色創造力的影響；
- 三、人力資源管理對創造力人格特質與員工綠色創造力間關係的影響。

第四節 研究流程

本研究所進行的步驟如圖 1-4-1 所示，首先確定研究之主題與方向，再進行相關文獻的收集與探討，進而從文獻探討中發展出理論架構以及研究假說，確認研究對象後進行問卷發放及修改，最後進行回收問卷之分析工作，從分析資料中得到結論。

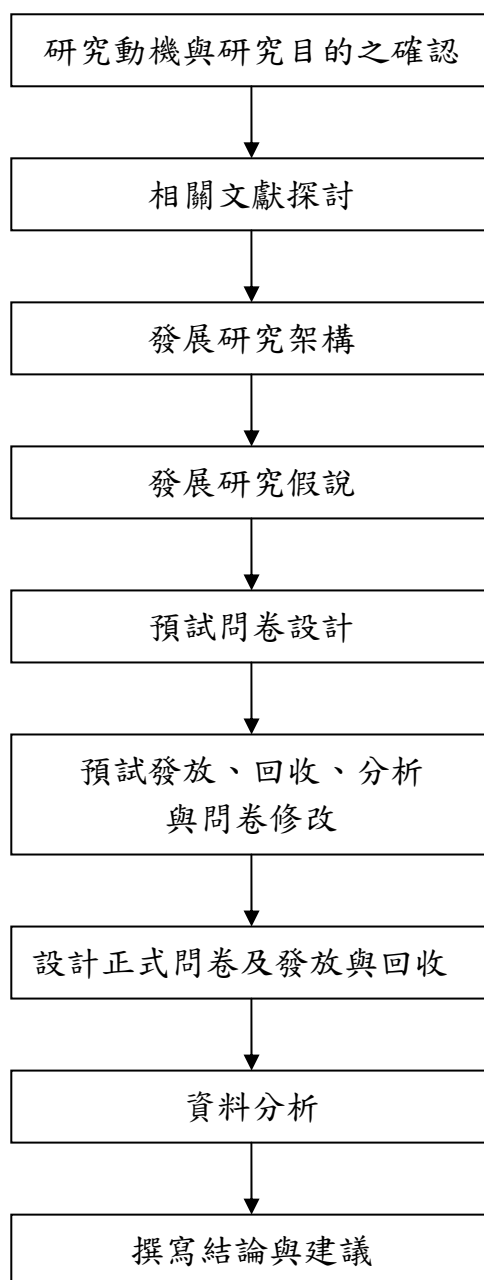


圖 1-4-1 研究流程圖

參考文獻

中文部分

- 朱興華 (2010)，編輯室手札，*永續產業發展雙月刊*，49，1-102。
- 江誠榮、陳龍吉 (2009)，環保產業之現況與未來發展趨勢，*機械月刊*，412，11月。
- 江森自控 (2008)，創造力的世界，2008年業務和永續性發展報告，12月。
- 呂穎彬 (2008)，產品環保法令與國際環保團體對電子業供應鏈之影響，*永續產業發展雙月刊*，42，1-8。
- 李依蓉 (2009)，策略導向、綠色創造力為前置變數探討整合能耐與綠色新產品競爭優勢關聯性之研究-以台灣地區電機產業為例，[國立高雄應用科技大學商務經營研究所碩士論文](#)。
- 余騰耀、溫麗琪 (2008)，環保產業前景與展望，財團法人中技社環境議題研討資料。
- 林鈺琴 (2005)，組織公民行為之跨層次分析，*管理學報*，22(4)，503-524。
- 林鈺琴、彭台光 (2006)，多層次管理研究：分析層次的概念、理論和方法，*管理學報*，6，649-675。
- 吳萬益、林清河(2002)，*行銷研究*，台北：華泰書局。
- 胡政源(2004)，*企業研究方法-SPSS 的應用實例*，台北市：鼎茂書局。
- 洪琬婷 (2008)，技術創新能力、研發投入與國際化活動對創新績效的影響-以綠色創新技術為中介變數，[國立中正大學企業管理所碩士論文](#)。

涂錫焜 (1990)，環保產業技術移轉之研究，國立中興大學經濟研究所碩士論文。

曾聰智 (2005)，環保產業經營策略之個案研究，國立政治大學經營管理碩士學程碩士論文。

曾世豐 (2007)，以總體資源為基之環保產業競爭策略，逢甲大學經營管理碩士在職專班碩士論文。

陳順宇 (2007)，多變量分析，台北市：華泰。

陳文輝 (2008)，全球化綠色環保規範發展近況與因應措施，永續產業發展雙月刊，42，2-19。

張耿榕 (2002)，加入世界貿易組織(WTO)對我國環保產業的衝擊及因應對策之研究，國立中山大學國際高階經營管理研究所碩士論文。

張以燦 (2004)，環保產業國際行銷之策略研究——以亞洲新興國家為例，國立清華大學高階主管經營管理碩士在職專班碩士論文。

黃家齊 (2002c)，人力資源管理系統與組織績效-智慧資本觀點，管理學報，3，415-450。

黃家齊 (2003)，人力資本投資系統、創新策略與組織績效-多種契合觀點的驗證，管理評論，1，99-126。

蔡珍妮 (2006)，中國環境污染問題與環保產業發展之研究，國立中山大學大陸研究所碩士論文。

蔡振球、呂秀月、鍾美華 (2009)，綠能產業興起開創環保產業新商機，ITIS 智網工研院能環所 ITIS 計劃，2009 年 8 月 28 日。

溫家秀 (2009)，台灣環保產業現況與發展契機，國立台北科技大學環境工程與管理研究所碩士論文。

溫福星 (2007)，階層線性模式，台北市：雙葉書廊。

經建會、環保署 (2004)，環保服務業發展綱領及行動方案，頁 3。

經濟部工業局 (2006)，新興工業發展策略及措施，環境保護工業，頁 1。

楊曉義 (2006)，台灣電漿熔融環保產業定位策略分析，國立臺灣科技大學企業管理系碩士論文。

廖宗銘 (2007)，台灣環保產業經營策略分析-以水處理工程業為例，雲林科技大學企業管理系碩士班碩士論文。

蔣本基 (2008)，綠化科技發展回顧與展望，永續產業發展雙月刊，41，1-12。

賴明亮 (2009)，我國環保產業發展現況及前瞻之研究，國立中央大學環境工程研究所碩士在職專班碩士論文。

蘇錦榮 (1998)，新竹科學園區資訊電子產業研發人員、技術人員與非科技人員創造力之研究，國立政治大學科技管理研究所碩士論文，未出版。

謝惠子 (2007)，綠能產業發光體--太陽能產業國內外現況，經濟部能源局能源報導封面故事，10月。

英文部分

Aguilar, A. A. (1996). Personality and creativity. *Personality and Individual Differences*, 21(6), 959-969.

Agrell, A. and Gustafson, R. (1994). The team climate inventory and group innovation: A psychometric test on a Swedish sample of work groups. *Journal of Occupational and Organizational Psychology*, 67, 143-151.

Akinson, J. W. and Feather, N. T. (1996). *A Theory of Achievement Motivation*. New York.

Albrecht, T. L. and Hall, B. J. (1991). Facilitating talk about new ideas: The role of personal relationships in organizational innovation. *Communication Monographs*, 58, 273-288.

- Alberti, M., Cairii, M., Calabrese, A. and Rossi, D. (2000). Evaluation of the costs and benefits of an environmental management system. *International Journal of Production Research*, 38(1), 4455-4466.
- Amabile, T. M. (1979). Effects of external evaluation on artistic creativity. *Journal of Personality and Social Psychology*, 37, 221-233.
- Amabile, T. M. (1982). Children's artistic creativity: Detrimental effects of competition in a field setting. *Personality and Social Psychology Bulletin*, 8, 573-578.
- Amabile, T. M. (1983). *The Social Psychology of Creativity*. New York: Springer-Verlag.
- Amabile, T. M. and Gitomer, J. (1984). Children's artistic creativity: Effects of choice in task materials. *Personality and Social Psychology Bulletin*, 10, 209-215.
- Amabile, T. M., Hennessey, B. A. and Grossman, B. S. (1986). Social influences on creativity: The effects of contracted-for reward. *Journal of Personality and Social Psychology*, 50, 14-23.
- Amabile, T. M. (1987). The motivation to be creative. In S. Isaksen (Ed.), *Frontiers in Creativity: Beyond the Basics*. 223-254. Buffalo, NY: Bearly Limited.
- Amabile, T. M. and Grysiewicz, S. S. (1987). *Creativity in the R&D Laboratory*. Technical report No. 30, Center for Creative Leadership, Greensboro, NC.
- Amabile, T. M. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behavior*. 10, 123-167. Greenwich, CT: JAJ Press.
- Amabile, T. M. and Grysiewicz, N. (1989). The creative environment scales: The work environment inventory. *Creativity Research Journal*, 2, 231-254.
- Amabile, T. M., Goldfarb, P. and Brackfield, S. (1990). Social influences on creativity: Evaluation, coaction, and surveillance. *Creativity Research Journal*, 3, 6-21.

- Amabile, T. M. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review*, 3, 185-201.
- Amabile, T. M., Hill, K. G., Hennessey, B. A. and Tighe, E. (1994). The Work Preference Inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, 66, 950-967.
- Amabile, T., Conti, R., Coon, H., Lazenby, J. and Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154-1184.
- Amabile, T. M. (1996). *Creativity in Context*. Boulder, CO: Westview Press.
- Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, 40(1), 39-58.
- Andrews, F. M. (1979). *Scientific Productivity*. Cambridge: Cambridge University Press.
- Andersson, L. M. and Bateman, T. S. (2000). Individual environmental initiative: championing natural environmental issues in U.S. business organizations. *Academy of Management Journal*, 43(4), 548-570.
- Angell, L. C. (2001). Comparing the environmental and quality initiatives of baldrige award winners. *Production and Operations Management*, 10(3), 306-326.
- Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 37(3), 670-687.
- Argyris, C. (1988). Empowerment: The emperor's new clothes. *Harvard Business Review*, 76(3), 98-105.
- Argenti, P. A. (1998). Strategic employee communications. *Human Resource Management*, 37(4), 199-206.
- Atwater, D. C. and Bass, B. M. (1994). Transformational leadership in teams. in Bass, B. M. and Avolio, B. J. (Eds.), *Improving*

Organizational Effectiveness Through Transformational Leadership. Sage Publication, London, 48-83.

Azzone, G., Bianchi, R., Mauri, R. and Noci, G. (1997). Defining operating environmental strategies: programmes and plans within Italian industries. *Environmental Management and Health*, 8(1), 4-19.

Azzone, G. and Noci, G. (1998a). Seeing ecology and “green” innovations as a source of change. *Journal of Organizational Change Management*, 119(2), 94-111.

Azzone, G. and Noci, G. (1998b). Identifying effective PMSs for the deployment of “green” manufacturing strategies. *International Journal of Operations and Production Management*, 18(4), 308-335.

Baily, L. (1985). Autonomy in the industrial R&D laboratory. *Human Resource Management*, 24, 129-146.

Bamber, C. J., Sharp, J. M. and Hides, M. T. (2000). Developing management systems towards integrated manufacturing: A case study perspective. *Integrated Manufacturing Systems*, 11(7), 454-461.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: Freeman.

Barron, F. (1955). The disposition toward originality. *Journal of Abnormal and Social Psychology*, 51, 478-485.

Barron, F. B. and Harrington, D. M. (1981). Creativity, intelligence and personality. *Annual Review of Psychology*, 32, 439-476.

Beard, C. and Hartman, R. (1997). Naturally enterprising: Eco-design, creative thinking and the greening of business products. *European Business Review*, 97(5), 237-243.

Beard, C. and Rees, S. (2000). Green teams and the management of environmental change in a UK county council. *Environmental Management and Health*, 11(1), 27-38.

Banerjee, S. B. (1998). Corporate environmentalism: Perspectives from organizational learning. *Management Learning*, 29(2), 147-164.

Black, S. E. and Lynch, L. M. (1996). Human-Capital Investments and

- Productivity. *The American Economic Review*, 86(2), 263-267.
- Bliese, P. D. (2000). Within-group agreement, nonindependence, and reliability: Implications for data aggregation and analysis. In Klein, K. J. and Kozlowski, S. W. J. (Eds.), *Multilevel Theory, Research, and Methods in Organizations: Foundations, Extensions, and New Directions*. 349-381. San Francisco: Jossey- Bass.
- Bowen, D. E. and Lawler, E. E. (1992). The empowerment of service workers: What, why, how and when. *Sloan Management Review*, 33(3), 31-39.
- Bryk, A. S. and Raudenbush, S. W. (1992). *Hierarchical Linear Models: Applications and Data Analysis Methods*. Newbury Park, CA: Sage.
- Carson, P. P. and Carson, K. D. (1993). Managing creativity enhancement through goal-setting and feedback. *Journal of Creative Behavior*, 27, 36-45.
- Casado, T. O. (2002). Indivíduo e o grupo: A chave para o desenvolvimento. In: Fleury MTL, editor. *As pessoas na organização*. São Paulo: Gente.
- Cook, J. and Seith, B. J. (1991). Environmental training: A tool for assuring compliance. *Journal of Environmental Regulation*, 1(2), 167-172.
- Cook, J. and Seith, B. J. (1992). Designing an effective environmental training program. *Journal of Environmental Regulation*, 2(1), 53-62.
- Corbett, L. M. and Cutler, D. J. (2000). Environmental management systems in the New Zealand plastics industry. *International Journal of Operations and Production Management*, 20(2), 204-224.
- Cordano, M. and Frieze, I. H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behavior. *Academy of Management Journal*, 43(4), 627-41.
- Curkovic, S., Melnyk, S. A., Handfield, R. B. and Calantone, R. (2000). Investigating the linkage between TQM and environmentally responsible manufacturing. *IEEE Transactions on Engineering Management*, 47(4), 444-464.
- Cuieford, J. P. (1973). *Fundamental Statistics in Psychology and Education*. (5th

Ed.). New York: McGraw Hill.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the Psychology of Discovery and Invention*. New York: HarperCollins.

Davis, K. (1972). *Human Behavior at Work: Organizational Behavior*. NY: McGraw-Hill.

Davis, G. A. (1973). *Psychology of Problem Solving*. New York: Basic Books.

Davis, G. A. (1989). Testing for creative potential. *Contemporary Educational Psychology*, 14, 257-274.

Davis, J. (1991). *Greening Business: Managing for Sustainable Development*. Oxford: Basil Blackwell.

Daily, B. F. and Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations and Production Management*, 21(12), 1539-1552.

Deci, E. L. and Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum Press.

Deci, E. L. and Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, 53, 1024-1037.

Deci, E. L., Connell, J. P. and Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, 74, 580-590.

Delbecq, A. L. and Mills, P. K. (1985). Managerial practices that enhance innovation. *Organizational Dynamics*, 14(1), 24-34.

DeVanna, M. A. and Tichy, N. (1990). Creating the competitive organization of the 21st century: The boundaryless corporation. *Human Resource Management*, 29, 445-471.

Denton, K. D. (1999). Employee involvement, pollution control and pieces to the puzzle. *Environmental Management and Health*, 10(2), 105-111.

Domino, G. (1970). Identification of potentially creative persons from the

- Adjective Check List. *Journal of Consulting and Clinical Psychology*, 35, 48-51.
- Domino, G. (1994). Assessment of creativity with the ACL: an empirical comparison of four scales. *Creativity Research Journal*, 7(1), 21-33.
- Donnelly, B. (1994). Creativity in the workplace. *The Journal of Technology Studies*, 4-8.
- Dyer, L. and Reeves, T. (1995). Human resource strategies and firm performance: What do we know and where do we need to go? *International Journal of Human Resource Management*, 6(3), 656-670.
- Egri, C. P. and Herman, S. (2000). Leadership in the North American environmental sector: Values, leadership styles, and contexts of environmental leaders and their organizations. *Academy of Management Journal*, 43(4), 571-604.
- Eisenberger, R. and Armeli, S. (1997). Can salient reward increase creativity without reducing intrinsic creative interest? *Journal of Personality and Social Psychology*, 72, 652-663.
- Enander, R. T. and Pannullo, D. (1990). Employee involvement and pollution prevention. *Journal for Quality and Participation*, 1(3), 50-53.
- Epstein, M. J. and Roy, M. (1997). Using ISO 14000 for improved organizational learning and environmental management. *Environmental Quality Management*, 7 (1), 21-30.
- Eurostat/OECD (1999). *The Environmental Goods & Services Industry: Manual for Data Collection and Analysis*.
- Feist, G. J. (1998). A meta-analysis of personality in scientific and artistic creativity. *Personality and Social Psychology Review*, 4, 290-309.
- Fey, C. F. (2000). The effect of human resource management practices on firm performance in Russia. *The International Journal of Human Resource Management*, 11(1), 1-18.
- Fernandez, E., Junquera, B. and Ordiz, M. (2003). Organizational culture and human resources in the environmental issue: A review of the

- literature. *International Journal of Human Resource Management*, 14(4), 634-656.
- Florida, R. (1996). Lean and green: The move to environmentally conscious manufacturing. *California Management Review*, 39, 80-105.
- Fornell, C. and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Ford, C. M. (1996). A theory of individual creative action in multiple social domains. *Academy of Management Review*, 21, 1112–1142.
- Forman, M. and Jorgensen, M. S. (2001). The social shaping of the participation of employees in environmental work within enterprises: Experiences from a Danish context. *Technology Analysis & Strategic Management*, 13(1), 71-90.
- Fussler, C. (1996). *Driving Eco-Innovation: A Breakthrough Discipline and Sustainability*. London: Pitman.
- Getzels, J. W. and Csikszentmihalyi, M. (1976). *The Creative Vision: A Longitudinal Study of Problem-Finding in Art*. New York: Wiley-Interscience.
- Gerhart, B. and Milkovich, G. T. (1992). Employee compensation: Research and practice. In Dunnette, M. D. and Hough, L. M. (eds.) *Handbook of Industrial and Organizational Psychology*. Vol. 3. Palo Alto, CA: Consulting Psychologists Press.
- Getzner, M. (1999). Cleaner production, employment effects and socio-economic development. *International Journal of Technology Management*, 17(5), 522-43.
- George, J. M. and Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An international approach. *Journal of Applied Psychology*, 86(3), 513-524.
- Gough, H. G. and Heilbrun, A. B. (1965). *The Adjective Check List Manual*. Palo Alto, CA: Consulting Psychologists Press.
- Gough, H. G. (1979). A creative personality scale for the adjective check

- List. *Journal of Personality and Social Psychology*, 37, 1398-1405.
- Govindarajulu, N. and Daily, B. F. (2004). Motivating employees for environmental improvement. *Industrial Management and Data Systems*, 104(4), 364-72.
- Go´mez, P. J., Lorente, J. and Cabrera, R. V. (2005). Organizational learning and compensations strategies: evidence from the Spanish chemical industry. *Human Resource Management*, 44(3), 279-99.
- Groenegen, P. and Vergragt, F. (1991). Environmental issues as threats and opportunities for technological innovation. *Technology Analysis & Strategic Management*, 3(1), 43-55.
- Griffiths, A. and Petrick J. A. (2001). Corporate architecture for sustainability. *International Journal of Operations and Production Management*, 21(12), 1573-1585.
- Guilford, J. P. (1950). Creativity. *American Psychologist*, 5, 444-454.
- Gupta, M. and Sharma, K. (1996). Environmental operations management: An opportunity for improvement. *Production and Inventory Management Journal*, 37(3), 40-6.
- Hage, J. and Dewar, R. (1973). Elite values versus organizational structure in predicting innovation. *Administrative Science*, 18, 279-290.
- Hart, S. L. (1995). A natural resource-based view of the firm. *Academy of Management Review*, 20(4), 986-1014.
- Harter, S. (1978). Effectance motivation reconsidered: Toward a developmental model. *Human Development*, 21, 34-64.
- Hanna, M. D., Newman, W. R. and Johnson, P. (2000). Linking operational and environmental improvement through employee involvement. *International Journal of Operations & Production Management*, 20(2), 148-165.
- Handfield, R. B., Mehiyk, S. A., Calantone, R. G. and Curkovic, S. (2001). Integrating environmental concerns into the design process: The gap between theory and practice. *IEEE Transactions on Engineering Management*, 18(2), 189-208.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. and Tatham, R. L.

- (2006). *Multivariate Data Analysis* (6th ed.). New York: Prentice Hall.
- Hocevar, D. and Bachelor, P. (1989). In J. A. Glover, R. R. Ronning, & C. R. Reynolds (Eds.), *Handbook of Creativity*: 53-75. New York: Plenum Press.
- Hostager, T. J., Neil, T. C., Decker, R. L. and Lorentz, R. D. (1998). Seeing environmental opportunities: effects of intrapreneurial ability, efficacy, motivation, and desirability. *Journal of Organizational Change Management*, 11(1), 11-25.
- Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear model. *Journal of Management*, 23, 723-744.
- Ichniowski, C., Kochan, T. A., Levine, D., Olson, C. and Strauss, G. (1996). What works at work: Overview and assessment. *Industrial Relations*, 35, 325-332.
- Ivancevich, J. M. (1995). *Human resource management*. Chicago: Irwin.
- James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67, 219-229.
- James, L. R., Demaree, R. G. and Wolf, G. (1984). Estimating within group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85-98.
- Jabbour, C. J. C. and Santos, F. C. A. (2008). Relationships between human resource dimensions and environmental management in companies: Proposal of a model. *Journal of Cleaner Production*, 16, 51-58.
- Kanter, R. M. (1983). *The Change Masters*. New York: Simon & Schuster.
- Kanter, R. M. (1989). The new managerial work. *Harvard Business Review*, 66, 85-92.
- Kaduson, H. G. and Schaefer, C. E. (1991). Concurrent validity of the creative personality scale of the Adjective Check List. *Psychological Reports*, 69, 601-602.
- Katzenbach, J. R. and Smith, D. K. (1993). *The Wisdom of Teams*. Massachusetts: Harvard Business School Press.

- Kerlinger, F. N. (1986). *Foundations of Behavioral Research* (3rd ed.). Chicago: Holt Rinehart and Winston.
- Kimherley, J. R. (1981). Managerial innovation. In P. C. Nystrom & W. H. Starbuck (Eds.), *Handbook of Organizational Design*: 84-104. New York: Oxford University Press.
- Kimherley, J. R. and Evanisko, M. I. (1981). Organizational innovation: The influence of individual, organizational and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal*, 24, 689-713.
- King, N. and West, M. A. (1985). *Experiences of Innovation at Work*. SAPU memo no. 772, University of Sheffield, Sheffield, England.
- Kinicki, A. and Williams, B. K. (2003). *Management a Practical Introduction*. McGraw-Hill Irwin, p.160.
- Kitazawa, S. and Sarkis, J. (2000). The relationship between ISO 14001 and continuous source reduction programs. *International Journal of Operations & Production Management*, 20(2), 225-248.
- Klassen, R. D. and McLaughlin, C. P. (1993). TQM and environmental excellence in manufacturing. *Industrial Management and Data Systems*, 93, 14-22.
- Klassen, R. D. (2000). Exploring the linkage between investment in manufacturing and environmental technologies. *International Journal of Operations and Production Management*, 20(2), 127-147.
- Klein, K., Dansereau, F. and Hall, F. J. (1994). Levels issues in theory development, data collection, and analysis. *Academy of Management Review*, 19, 195-229.
- Koestner, R., Ryan, R. M., Bernieri, F. and Holt, K. (1984). Setting limits on children's behavior: The differential effects of controlling vs. informational styles on intrinsic motivation and creativity. *Journal of Personality*, 52, 233-248.
- Keogh, P. and Polonsky, M. J. (1998). Environmental commitment: A basis for environmental entrepreneurship? *Journal of Organizational Change Management*, 11(1), 38-49.

- Kruglanski, A. W., Friedman, I. and Zeevi, G. (1971). The effects of extrinsic incentive on some qualitative aspects of task performance. *Journal of Personality*, 39, 606-617.
- Laabs, J. J. (1992). The greening of HR. *Personal Journal*, 8, 60-71.
- Lawler, E. E. (1973). *Motivation in Work Organizations*. Pacific Grove, CA: Brooks and Cole.
- Lawler, E. E. (1986). *High-Involvement Management*. San Francisco: Jossey-Bass.
- Lawler, E. E. (1990). *Strategic Pay: Aligning Organizational Strategies and Pay Systems*. San Francisco: Jossey-Bass.
- Lawler, E. E. (1992). *The Ultimate Advantage: Creating the High Involvement Organization*. San Francisco, CA: Jossey-Bass.
- Lent, T. and Wells, R. P. (1994). Corporate environmental management survey shows shift from compliance to strategy. in Willig, J.T. (Ed.), *Environmental TQM*. 2nd ed., McGraw-Hill, New York, NY, 8-32.
- Leitch, J., Nieves, D., Burke, G., Little, M. and Gorin, M. (1995). Strategies for involving employees. *The Journal for Quality and Participation*, 18(5), 68-74.
- Lewin, A. Y. and Stephens, C. (1994). CEO attributes as determinants of organization design: An integrated model. *Organization Studies*, 15(2), 183-212.
- Lord, F. M. and Novick, M. R. (1968). *Statistical Theories of Mental Test Scores*. Reading MA: Addison-Wesley Publishing Company.
- May, D. R. and Flannery, L. B. (1995). Cutting waste with employee involvement teams. *Business Horizons*, 38(5), 28-38.
- MacKinnon, D. W. (1965). Personality and the realization of creative potential. *American Psychologist*, 20, 273-281.
- Madsen, H. and Ulhoi, J. P. (1996). Corporate environment and resource management: Overview of results from a survey of the present greening situation in Danish companies. Working Paper No.4, The

Aarhus School of Business, Aarhus.

- Madsen, H. and Ulhøi, J. P. (2001). Greening of human resources: environmental awareness and training interests within the workforce. *Industrial Management and Data Systems*, 101(2), 57-63.
- March, J. G. and Simon, H. A. (1958). *Organizations*. New York: Wiley.
- Martindale, C. (1989). Personality, situation, and creativity. In J. A. Glover, R. R. Ronning, & C. R. Reynolds (Eds.), *Handbook of Creativity*. 211-232. New York: Plenum.
- Matthews, D. H., Christini, G. C. and Hendrickson, C. T. (2004). Five elements for organizational decision-making with an environmental management system. *Environmental Science and Technology*, 38(7), 1927-1932.
- McCrae, R. R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of Personality and Social Psychology*, 52, 1258-1265.
- McCloskey, J. and Maddock, S. (1994). Environmental management: Its role in corporate strategy. *Management Decision*, 32(1), 27-32.
- Milliman, J. and Clair, J. (1995). Environmental HRM best practices in the USA. *Greener Management International*, 10(4), 34-48.
- Monge, P. R., Cozzens, M. D. and Contractor, N. S. (1992). Communication and motivational predictors of the dynamics of organizational innovation. *Organizational Science*, 3, 250-274.
- Mumford, M. D. and Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103, 27-43.
- Neuman, G. A. and Wright, J. (1999). Team effectiveness: Beyond skills cognitive ability. *Journal of Applied Psychology*, 84, 376-389.
- Noe, R. M., Mondy, R. W. and Premeaux, S. R. (2001). *Human Resources Management, 9th Edition*. Upper Saddle River, NJ: Prentice-Hall, Inc.
- Nunnally, J. C. (1978). *Psychometric Theory*. New York: McGraw-Hill.

- Oh'Eocha, M. A. (2000). Study of the influence of company culture, communications and employee attitudes on the use of 5S for environmental management at Cooke Brothers Ltd. *The TQM Magazine*, 12(5), 321-330.
- Oldham, G. R. and Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39(3), 607-634.
- Orpen, C. (1990). Measuring support for organizational innovation: A validity study. *Psychological Reports*, 67, 417-418.
- Ostroff, C. (1992). The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology*, 77, 963-974.
- Ostroff, C. (1993). Comparing correlations based on individual level and aggregate data. *Journal of Applied Psychology*, 78, 569-582.
- Payne, R. (1990). The effectiveness of research teams: A review. In M. A. West & J. L. Farr (Eds.), *Innovation and Creativity at Work*: 101-122. Chichester, England: Wiley.
- Patton, K. R. and Daley, D. M. (1998). Gainsharing in Zebulon: what do workers want? *Public Personnel Management*, 4, 117-31.
- Paolillo, J. G. and Brown, W. B. (1978). How organizational factors affect R&D innovation. *Research Management*, 21, 12-15.
- Parnes, S. J. and Noller, R. B. (1972). Applied creativity: The creative studies project- Part II:Results of the two-year program. *Journal of Creative Behavior*, 6, 164-186.
- Pelz, D. C. and Andrews, F. M. (1966). *Scientists in Organizations*. New York: Wiley.
- Perry-Smith, J. E. (2003). The social side of creativity: A static and dynamic social network perspective. *Academy of Management Journal*, 28(1), 89-106.
- Perry-Smith, J. E. (2006). Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management Journal*, 49(1), 85-101.

- Pfeffer, J. (1994). *Competitive Advantage Through People*. Boston, MA: Harvard Business School.
- Pfeffer, J. (1998). Seven practices of successful organizations. *California Management Review*, 40(2), 97-125.
- Purcell, J. and Ahlstrand, B. (1994). *Human Resource Management in the Multidivisional Company*. Oxford: Oxford University Press.
- Ramus, C. A. (1997). Employee empowerment at GE Plastics: An example of a successful environmental change process. *Corporate Environmental Strategy*, 4(13), 38-47.
- Ramus, C. and Steger, U. (2000). The roles of supervisory support behaviors and environmental policy in employee eco-initiatives at leading edge European companies. *Academy of Management Journal*, 43(4), 605-626.
- Ramus, C. A. (2001). Organizational support for employees: Encouraging creative ideas for environmental sustainability. *California Management Review*, 43(3), 85-105.
- Ramus, C. A. (2002). Encouraging innovative environmental actions: what companies and managers must to do? *Journal of World Business*, 37, 151-164.
- Ray, M. L. (1987). Strategies for stimulating personal creativity. *Human Resource Planning*, 10(4), 185-193.
- Redmond, M. R., Mumford, M. D. and Teach, R. (1993). Putting creativity to work: Effects of leader behavior on subordinate creativity. *Organizational Behavior and Human Decision Processes*, 55, 120-151.
- Rousseau, D. M. (1985). Issues of level in organization research: Multi-level and cross-level perspectives. In B. M. Staw & L. L. Cummings (Eds.). *Research in Organizational Behavior*. 7, 1-37. Greenwich, CT: JAI Press.
- Rondinelli, D. A. and Berry, M. A. (1997). Case study: Sonoco's materials reclamation improves environmental performance through quality-based management. *Total Quality Environmental*

Management, 6(4), 1-9.

- Rothenberg, S. (2003). Knowledge content and worker participation in environmental management at NUMMI. *Journal of Management Studies*, 40(7), 1783-1802.
- Roe, A. (1952). *The Making of a Scientist*. Dodd, Mead & Co., New York.
- Russo, M. V. and Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40, 534-59.
- Sanderlands, G. (1994). 3M find brass in Muck. *Management Decision*, 32(5), 63-4.
- Sarkis, J. (2001). Manufacturing's role in corporate environmental sustainability: Concerns for the New Millennium. *International Journal of Operations and Production Management*, 21(5-6), 666-686.
- Scott, S. G. and Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37, 580-607.
- Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. *Academy of Management Journal*, 43(4), 681-97.
- Shrivastava, P. (1995). The role of corporations in achieving ecological sustainability. *Academy of Management Review*, 20(4), 936-61.
- Shrivastava, P. (1996). *Greening Business: Profiting the Corporation and the Environment*. Cincinnati, OH: Thomson Executive Press.
- Shalley, C. E. (1991). Effects of productivity goals, creativity goals, and personal discretion on individual creativity. *Journal of Applied Psychology*, 76, 179-185.
- Shalley, C. E. (1995). Effects of coaction, expected evaluation, and goal setting on creativity and productivity. *Academy of Management Journal*, 38, 483-503.
- Shalley, C. E. and Oldham, G. R. (1997). Competition and creative performance: Effects of competitor presence and visibility. *Creativity*

Research Journal, 10, 337–345.

Shalley, C. E. and Perry-Smith, J. E. (2001). Effects of social psychological factors on creative performance: The role of informational and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes*, 84, 1–22.

Siegel, S. M. and Kaemmerer, W. F. (1978). Measuring the perceived support for innovation in organizations. *Journal of Applied Psychology*, 63, 553-562.

Singhal, A. and Gupta, A. (1993). Management human resource for innovation and creativity. *Research Technology Management*, 36(3), 41-48.

Smith, J. and Schaefer, C. (1969). Development of a creativity scale for the Adjective Check List. *Psychological Reports*, 25, 87-92.

Snell, S. A. and Dean, J. W. (1992). Integrated manufacturing and human resource management: A human capital perspective. *Academy of Management Journal*, 35(3), 467-504.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38 (5), 1442-1465.

Staw, B. M. (1990). An evolutionary approach to creativity and innovation. In M. A. West & J. L. Farr (Eds.), *Innovation and Creativity at Work*. 287-308. Chichester, UK: Wiley.

Strebel, P. (1996). Why do employees resist change? *Harvard Business Review*, 3, 86-92.

Sternberg, R. J. (1983). Cognitive-behavioral approaches to the training of intelligence in the retarded. *Journal of Special Education*, 15, 65-183.

Sternberg, R. J. (1988). A three-facet model of creativity. In R. J. Sternberg (Ed.), *The Nature of Creativity*. 125-147. New York: Cambridge University Press.

Sternberg, R. J. and Lubart, T. I. (1996). Investing in creativity. *American Psychologist*, 51(7), 677-688.

- Sushi, A. and Shoal A. S. (2004). Adoption and maintenance of environmental management systems. *Management of Environmental Quality: An International Journal*, 15(4), 399-419.
- Taylor, C. W. (1964). *Creativity: Progress and potential*. New York: McGraw-Hill.
- Tarricone P. (1996). People, not products, are the key to pollution prevention, study finds. *Facilities Design and Management*, 15(1), 18.
- Tierney, P., Farmer, S. M. and Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, 52, 591–620.
- Torrance, P. (1981). *Thinking Creatively in Action and Movement*. Bensenville, IL: Scholastic Testing Service.
- Ulhoi, J. P., Madsen, H. and Rikhardsson, P. M. (1994). Training in environmental management-industry and sustainability: Corporate environmental resource management and education requirements. Executive summary No. 88, Institut for Informationsbehandling, Aarhus, Denmark.
- Vancouver, J. B., Millsap, R. E. and Peters, P. A. (1994). Multilevel analysis of organization goal congruence. *Journal of Applied Psychology*, 79, 666-679.
- Van Berkel, R., Willems, E. and Lafleur, M. (1997). Development of an industrial ecology toolbox for the introduction of industrial ecology in enterprises, I. *Journal of Cleaner Production*, 5(1-2), 11-25.
- Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management Science*, 32, 590-607.
- Van Gundy, A. (1987). Organizational creativity and innovation. In S. G. Isaksen (Ed.), *Frontiers of creativity research*. 358-379. Buffalo, NY: Bearly.
- Van de Ven, A. H. and Angle, H. L. (1989). An introduction to the Minnesota innovation research program. In A. H. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research an the Management of*

- Innovation: The Minnesota Studies*. 3-30. New York: Harper & Row.
- Van den Ende, J. and Van Dijk, C. (2002). Suggestion systems: Transferring employee creativity into practicable ideas. *R&D Management*, 32(5), 387-395.
- Wee, Y. S. and Quazi, H. A. (2005). Development and validation of critical factors of environmental management. *Industrial Management and Data Systems*, 105(1), 96-114.
- Wehrmeyer, W. (1996). *Greening People*. Sheffield, England: Greenleaf Publishing.
- Welbourne, T. and Gomez-Mejia, L. (1995). Gainsharing: A critical review and future research agenda. *Journal of Management*, 21, 559-609
- Welford, R. (1992). Linking quality and the environment: A strategy for the implementation of environmental management systems. *Business Strategy and the Environment*, 1(1), 25-34.
- Welford, R. (1998). *Corporate Environmental Management: Systems and strategies*. London: Earthscan.
- West, M. A. (1986). *Role Innovation in the World of Work*. Memo no, 670, MRC/ESRC Social and Applied Psychology Unit, University of Sheffield, Sheffield, England.
- White, R. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 297-323.
- Williams, F. E. (1980). *The Creativity Assessment Packet Chesterfield*. MO: Psychologists and Educators Inc.
- Wilkinson, A., Hill, M. and Collan, P. (2001). The sustainability debate. *International Journal of Operations and Production Management*, 21(12), 1492-1502.
- Woodman, R. W., Sawyer, J. E. and Griffin. R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, 18, 293-321.
- Wong, W. Y. L. (1998). A holistic perspective on quality quests and

quality gains: The role of environment. *Total Quality Management*, 9(4/5), S241-5.

Wortzel, R. (1979). *Multivariate Analysis*. New Jersey: Prentice Hall.

Wright, P. M. and Bosewell, W. (2002). Desegregating HRM: A review and synthesis of micro and macro human resource management research. *Journal of Management*, 28(3), 24-276.

Yong, L. M. S. (1994). Managing creative people. *The Journal of Creative Behavior*, 28, 16-20.

Youndt, M. A., Snell, S. A., Dean, J. W. and Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of Management Journal*, 39(4), 836-866.

Zaltman, G., Duncan, R. and Holbek, J. (1973). *Innovations and Organizations*. London: Wiley.

Zhou, J. and George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44, 682-696.

Zhou, J. and Shalley, C. E. (2003). Research on employee creativity: A critical review and directions for future research. In J. Martocchio (Ed.), *Research in Personnel and Human Resource Management*. 22, 165-217. Oxford, U.K.: Elsevier.