編者的話

本期學報（24 卷 4 期）共收錄了四篇論文，各篇的主題簡述如下：

謝文昌、陳樹榮之「從技術知識進步鏈辨識技術機會之研究：以 telematics 為例」：從全球技術發展的視角，針對特定或專業領域的技術資料，以技術網絡分析觀點進行各種由淺入深的知識（shallow to deep knowledge）挖掘，不僅是組織因應外部環境動態變化、洞察機先與掌握策略性知識重要的來源，也是經營決策者改善創新績效與降低投資風險，終日不可迴避的管理議題。是以，該文依研究目的與專利檢索策略，從 USPTO 專利資料庫搜尋與關鍵字相關的所有專利形成分析資料集，並以文件中「引用參考（reference cited）」欄位的列舉資料進行相關專利的連結，進而構成一個專利引用網絡（patent citation network）。其後，也以此網絡為分析基礎，提出一個專利組合層級且具理論基礎的技術知識進步鏈分析（technological knowledge progress chain analysis; TKPCA）架構或模型；其分析結果，不僅可藉此辨識具潛在性的關鍵技術功能或技術組合的發展機會，其分析模型也可增補於先前研究的不足。另外，該研究也選擇「telematics」領域的專利，作為 TKPCA 模型檢驗的分析標的，同時，基於分析需求，TKPCA 的架構，也包含了基礎性技術群聚分析（BTKCA）、新穎性技術群聚分析（NTKCA）與鏈接群聚知識重覆分析（LCKRA）三個子模組。最後，從 telematics 專利資料的三階段分析過程中，也分別發現了很多有用且有價值的技術發展情報與知識。該究認為，這些發現對於 telematics 領域未來整體發展的創新促進與企業研發活動的投入和佈局，將會產生很重要的影響。

黃正魁、邱亞琪、林育志之「台灣電子商務宣告對市場反應的再研究」：電子商務實施（E-commerce implementation）的市場價值，在多年前，已經有相關的調查與研究。過往的研究報告顯示，電子商務的宣告影響，將會帶來正向的異常報酬（Abnormal returns），但由於大部分的大型電子商務企業都來自美國，研究人員經常使用 Compustat 及 CRSP 的資料來源，來探討此議題。對於台灣目前的市場狀況而言，電子商務也受到關注及重視。當公司宣告電子商務時，對投資人是否產生積極的投資行為，也是不容小覷，因為電子商務的存在，也是成為我們生活當中，不可或缺的一部分。而在 1999 年 1 月 1 日和 2001 年 12 月 31 這段期間裡，已有學者提出此種類型的研究，研究結果也與以往的研究結果呈現一致。但

隨著時間的飛逝，快速發展的台灣電子商務市場，早以與過往不相同。投資者對於企業投資電子商務宣告的相關新聞報導，可能將呈現不同行為的反應。因此，對於電子商務市場的反應，他們將再採用更新的數據資料研究，藉由已在金融、財務、會計、管理等領域成熟運用的事件研究法（Event study method），重新審視對有關台灣電子商務公告，其新聞報導的影響。該研究選用 2010 年 1 月 1 日至 2015 年 12 月 31 日期間的新聞資料，並從台灣經濟日報（Taiwan Economic Journal）提供的相關數據，進行再研究。最後結果顯示，投資者對公司宣告電子商務的影響，呈現正向影響，由此可知，企業宣告電子商務對台灣的投資者而言仍表樂觀。另外，進一步細分，發現宣告數位商品的電子商務 相關訊息的異常報酬，高於實體商品的相關宣告。

方澤翰、陳建錦之「基於搜尋日誌及排序學習之新式台灣景氣狀態監測系統」：景氣狀態監測對於政府及企業是個重要的議題，多數研究使用經濟指標監測景氣狀態。由於經濟指標需由不同政府部門協力完成，往往需要經過漫長的處理時間，導致景氣狀態發佈的延遲，而發佈的延遲將會增加政府及企業決策的不確定性。為了克服這個問題，該研究基於搜尋日誌建構了新式的景氣狀態預測模型，此模型使用排序學習演算法，從搜尋引擎回傳的小量高排名文件中選取最能夠代表景氣狀態的詞彙，接著取得這些詞彙在網路上的搜尋日誌，結合先進的機器學習模型來預測景氣狀態的變化。由於搜尋引擎提供的文件及搜尋頻率具有高度的即時性與可用性，因此基於搜尋詞彙所制定的經濟指標可以有效降低景氣狀態發佈的延遲，進而降低決策上的不確定性。實驗結果顯示他們所提出的架構能夠準確的預測景氣狀態，且基於排序學習演算法所建構的模型其準確率也優於使用傳統特徵選取方法所建構的模型。

郭英峰、田子弘之「LINE 企業貼圖類型對於廣告效果之影響」：LINE 為台灣最普及的即時通訊軟體應用程式，其貼圖更是吸引許多使用者的目光，因此企業紛紛在 LINE 上發行貼圖，但企業貼圖是否具有廣告效益，則值得加以探討。該研究從品牌置入程度以及與品牌形象一致性的角度，來探討何種的貼圖類型能夠獲得有效的廣告效果。該研究針對 LINE 的使用者進行線上實驗與問卷調查，共取得 624 筆有效樣本，並以單因子多變量分析（One-Way MANOVA）進行分析。研究結果顯示，LINE 的企業貼圖對於企業而言具有廣告效益，而貼圖類型則以品牌置入程度高以及與品牌形象一致性高之貼圖類型的廣告效果最佳。該研究釐清

了在 LINE 的使用情境下，何種貼圖類型有著較佳的廣告效果，也在廣告設計、廣告效果、以及行動廣告的研究上，提供一個全新的方向。

總編輯
李 有 仁 講座教授
資訊管理學系
國立政治大學
台灣台北文山區
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Editor's Introduction

In this issue of *Journal of Information Management*, we are delighted to present four research papers. The summaries of these papers are as follows.

Wen-Chang Hsieh and Shu-Jung Chen in their paper "Using the technological knowledge progress chain to identify technological opportunities: evidence from the telematics technology" propose technological knowledge progress chain analysis (TKPCA) that is a new concept and approach to extract a variety of technology knowledge simultaneously by the way from shallow to deep and multi-layer; it is also an analysis framework, which can integrate common knowledge discussed rarely in traditional research. The outcome of TKPCA cannot only speed up the evolution of overall technical specialization but also enhance the organization's short-term innovation performance, which is difficult to obtain through knowledge discovery in databases. The purpose of the study is to propose a dense network framework of TKPCA on the basis of patent citation and to mine a variety of shallow-to-deep knowledge as an identification of developing potential technology opportunities. The "telematics" is the target for technological analysis in the study. Meanwhile, it is also used as the keyword to undertake patent retrieval from USPTO. Afterwards, an affiliated network (PCAN) will be set up as the analytic information database for TKPCA, including 3 sub-modules, BTKCA (basic technological knowledge clusters analysis), NTKCA (novelty technological knowledge clusters analysis), and LCKRA (linking clusters knowledge redundancy analysis). From the findings of BTKCA, it appears that the basic technology of telematics consists of nine patent clusters; there are 4 main directions of technology development among network categories formed by these clusters. From the findings of NTKCA, it appears the novelty technology of telematics consists of seven patent clusters in total. Among them, three clusters are involved and developed the most positively and intensively by manufactures whilst the rest 4 technology clusters are developing individually. From the findings of LCKRA, the electronic image display technology has the most significant impact on novelty technology development as well as the innovative focus from the manufacturers' R&D. Furthermore, the values could be provided for

R&D engineers to grasp the whole picture of telematics and to use as significant reference while assessing the potential opportunities and development. The specialization growing technology is the main research subject regarding TKPCA in the study rather than emerging technology. Therefore, TKPCA does not consider the possible impact from non-patent literature citation, which could be improved in the future research. Moreover, the findings stated in the article mainly are searched with "telematics" keyword, so the outcome may differ accordingly once the keyword range changes. The findings from BTKCA for business-level decision-maker are not only the imperative references to scheme an integrated function for a new product, but a very important technological information to predict whether it could become a welcome merchandise or not. The findings from NTKCA for functional-level R&D manager present not only the imperative reference information to assess the timing of R&D projects, but a very important assessment information to identify the potential opportunities for technology R&D. The findings from LCKRA for the operational-level engineers include not only the imperative evaluation information for R&D development method and direction, but an indispensable knowledge and insight into the development on key technologies.

Cheng-Kui Huang, Ya-Chi Chiu and Yu-Chin Lin in their paper "The reexamination of market reaction to e-commerce announcements in Taiwan" conduct an event study method, which has been used in the financial, accounting, and management fields, to reexamine the effect on the news coverage about e-commerce announcements in Taiwan. They collected the news data from January 1st, 2010 to December 5th, 2015 and adopted the event study tool provided by Taiwan Economic Journal to verify the impact on e-commerce announcements during the period. The result shows that a positive influence is still existing, telling us that the investment of e-commerce enterprises in Taiwan is optimistic and opportunistic. In addition, the abnormal return for digital goods is significantly higher than that for tangible goods. The research limitations include that the investor may be able to collect the information coverage of e-commerce announcements in other ways. The study focuses on the Taiwan's company news; Therefore, they suggest that further studies can extend the sample pool from different countries, such as China. The manipulation of the media with the news way is still available for enterprises. The announcement of e-commerce initiatives to impact on abnormal returns can be referred to be as other instances.

Ze-Han Fang and Chien-Chin Chen in their paper "A novel Taiwan prosperity surveillance system based on search log and learning to rank" apply *search log* and *learning to rank* to predict the status of prosperity in Taiwan. Prosperity surveillance is an important issue for countries and organizations. Generally, the surveillance indicators are comprised of multiple economic variables which are compiled by different government departments. Compiling these variables involves a great deal of data processing, which delays the surveillance of prosperity. In the paper, they propose a novel prosperity surveillance system that utilizes the search logs from search engine. The system employs learning to rank algorithm to identify discriminative terms that are representative of prosperity. Representative terms and their query frequencies are then applied to a state-of-the-art data mining model to enhance the effectiveness of prosperity surveillance. The experimental results show that their prosperity surveillance system performs well and their feature selection method based on learning to rank outperforms other popular feature selection methods. The study focused only on using search log information, in their future work, they plan to investigate more information sources (e.g., news posting, internet forum) to enhance the proposed feature selection method. In the paper, they have proposed an effective framework for predicting the status of prosperity in Taiwan, the proposed method can provide effective support for government officials and authorities in order to help them respond to fast-changing events and topics, and make appropriate decisions.

Ying-Feng Kuo and Tzu-Hung Tein in their paper "The advertising effectiveness of enterprise stickers types for LINE" provide a new research direction toward advertising design, advertising effectiveness, and mobile advertisement. LINE is the most popular messaging app in Taiwan and its stickers attract many users' eyes. Thus, many enterprises release their own stickers on LINE gradually. It's worthy to explore whether enterprises stickers could achieve advertising effectiveness. In their study, they explore which enterprise sticker type of LINE will have more advertising effectiveness from the perspectives of brand placement and brand image consistency. Using a sample of LINE users in Taiwan, they collected 624 valid samples and the data were analyzed using One-Way MANOVA. The analytical results show that enterprise stickers of LINE have advertising effectiveness, and sticker type which is designed with high brand placement and high brand image consistency has the best advertising effectiveness. The cross-

sectional survey approach used in the study might not fully capture the long term behavior of LINE users. Sticker designers of enterprises can refer to their findings to design enterprise stickers for LINE.

Finally, on behalf of the editorial team, I would like to thank all the authors and reviewers for their collaborative efforts to make this issue and all previous issues possible. As the outgoing editor of this journal, I would like to take this opportunity to thank my dearest assistant, Dr. Laurence F.K. Chang and many student helpers. Without their helping efforts in the past 6 years, the production of this journal would not be possibly accurate and on schedule. At this moment of departure, I continue to sincerely wish that this journal become a bilingual knowledge exchange platform among information systems researchers around the world.

Eldon Y. Li, Ph.D., CPIM, CDE
Editor-in-Chief
University Chair Professor and Chairperson
Department of Management Information Systems
College of Commerce
National Chengchi University
Taipei, Taiwan
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