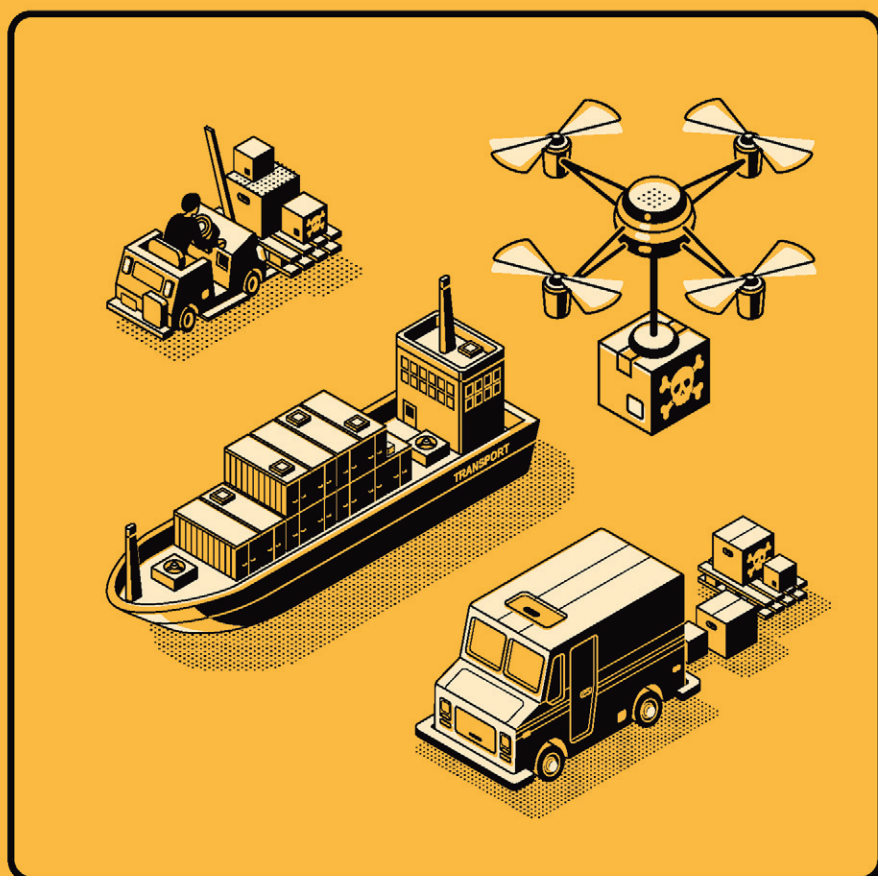


# Counterfeiting and Fraud in Supply Chains



Edited by

**Sanda Soucie**  
**Almir Pešek**

# **Counterfeiting and Fraud in Supply Chains**

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# Counterfeiting and Fraud in Supply Chains

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# Preface

The book *Counterfeiting and Fraud in Supply Chains* is dedicated to the explanation of reasons for the growth and popularity of counterfeiting and fraud among consumers and the economic and social impact of counterfeiting.

Counterfeiting is an increasing global problem, and almost every country in the world is facing the trade in counterfeit products. Globalisation, growth of world commerce, new markets and technology development (including e-commerce platforms) have contributed to the growth of the phenomenon of counterfeiting.

Counterfeiting affects a wide range of industries, from the pharmaceutical industry, electronics and electrical equipment industry, clothing and footwear, to food, cosmetics and luxury products industries. Counterfeiting products can often be dangerous, posing health, privacy and safety risks. Consumers that buy counterfeit products, due to their low prices compared to originals, are often exposed to serious health risks as counterfeit products are not subject to the regulatory standards and production norms that govern legitimate products.

Besides, counterfeiting has an unfavourable effect on legitimate manufacturers, as well as on the national and international economy. Companies face competitors that steal their intellectual property without paying taxes, lost revenues and productivity. On the other hand, governments have a reduction in tax revenues, fewer funds for public goods like schools, hospitals, roads and other basic infrastructure that in turn stimulate job growth. Consequently, it leads to unemployment and greater levels of crime.

The book consists of 11 chapters where readers can find theoretical explanations of counterfeiting and fraud, supported by empirical and practical explanations in the cases of different countries. Thus, we hope that it will serve as a basis for others to extend the research and provide some new insights into this area. This book can be considered as a theoretical and practical framework on this important topic showing implications and concrete recommendations to deal with counterfeiting and fraud.

We express sincere thanks to all our contributors from different countries for their individual and collaborative work in providing important information and diligently completing this project on time. We are also thankful to the reviewers who carefully and timely reviewed the manuscript.

Editors  
Sanda Soucie and Almir Peštek

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## Chapter 1

# Investigating the Landscape of Research on Counterfeiting Products and Goods: A Systematic Literature Review Using Science Mapping

*Jasna Kovačević and Almir Peštek*

### Abstract

This systematic literature review used bibliometric and science mapping as a means of exploring and understanding the evolution and landscape of research in the counterfeiting of products and goods. The review sought to document the size, growth trajectory and geographic distribution of counterfeiting research, identify high-impact scholars and documents, and explore the intellectual structure of the field. We identified 403 peer-reviewed articles published in the SCOPUS database, within subject areas of business, social sciences, economics, decision-making, arts and humanities, and psychology. We used VOSviewer software to analyse the data set of SCOPUS-indexed articles. Using citation analysis, the review identified the most cited scholars, documents, journals and most productive countries publishing research on counterfeiting. Aiming to identify highly influential documents whose impact in counterfeiting research has been sustained over time, we conducted a co-citation analysis. Apart from identifying main aspects of knowledge production through citation and co-citation analysis, we employed keyword co-occurrence analysis to illuminate research fronts in counterfeiting research, notably: anti-counterfeiting strategies for combating crime; counterfeiting and intellectual property rights; counterfeiting of luxury products; consumer ethics; consumer psychology and brand protection. We conclude that bibliometric analysis and science mapping offer a novel and useful means of investigating the development of this field of study.

*Keywords:* Bibliometric review; counterfeiting; counterfeit products and goods; knowledge production; review of research; science mapping

## Introduction

The process of reviewing prior and relevant literature in a particular scientific field is considered as an essential ingredient for successful academic and research projects. As [Webster and Watson \(2020\)](#) argue, an effective review facilitates theory development, closes areas where a plethora of research exists and uncovers areas where research is needed. A particularly important feature of literature review is that it is an excellent way of synthesising research findings to show evidence on a meta-level and to uncover areas in which more research is needed, which is a critical component of creating theoretical frameworks and building conceptual models ([Snyder, 2019](#)).

The field of counterfeiting products and goods has matured over the course of time, and it has been investigated through interdisciplinary lens, often referring to various contexts and areas of expertise, including business, marketing, medicine and health, engineering and so forth. Even though the first publications on counterfeiting can be traced back to the 1970s, it is still a popular topic with an increasing trend in interdisciplinary area ([Staaqe, Thiesse, & Fleisch, 2009](#)). During the last two decades, increasing customer demand for counterfeit products and goods motivates researchers to investigate the growing body of knowledge on the matter in multiple angles ([Latif, Yigit, & Kirezli, 2018](#)). For example, [Latif and colleagues \(2018\)](#) have systematically reviewed articles from scholarly journals, exploring the antecedents of counterfeit consumption, classifying them as product- and brand-based, social-based, and trait-based motivators and mixed approaches. [Samaddar and Menon \(2020\)](#) use morphological analytical approach to review 120 research articles published from 1994 to 2019, investigating non-deceptive counterfeit products. Samaddar and Menon's study takes a holistic view and combines a comprehensive list of antecedent factors to counterfeit purchase while also focusing on the market characteristics (e.g. stakeholders, market type, product category), research methodology (e.g. research design, research area) and theoretical models in the area. In their review article, [Khan, Fazili, and Bashir \(2020\)](#) have investigated counterfeit luxury consumption by analysing the evolution of research on counterfeit luxury consumption. The authors have identified four distinctive eras in counterfeiting luxury consumption: before 1990, early 1990s to late 1990s, early 2000s to late 2000s and early 2010s to present, indicating that in early 1990s to late 1990s, focus areas were primarily related to investigation of determinants, price, product and brand aspects; in early 2000s to late 2000s, researchers were focusing on psychographic determinants and consumption patterns, while in early 2010s to present days research focus has shifted towards identification of new predictors and counterfeiting outcomes.

However, despite a growing body of literature on counterfeit luxury consumption particularly from 1990s, counterfeiting scholarship remains mostly fragmented, reports inconsistent results and lacks a clear research direction ([Fazili & Bashir, 2020](#); [Kahn, Fazili, & Bashir, 2020](#)).

In that sense, the purpose of this chapter is to build upon previous reviews and to gain an empirically based perspective on the developments in research on counterfeiting goods from 1981 to modern times. Specifically, we are using bibliometric methods and science mapping for identification of research in counterfeiting goods, with an aim to address following research questions:

*RQ1.* How has the growth trajectory of counterfeit products and goods research changed over the decades between 1981 and 2022?

*RQ2.* What authors, articles and journals have evidenced the greatest citation impact between 1981 and 2022?

*RQ3.* What is the geographical distribution of research on counterfeit products and goods?

*RQ4.* How has the landscape of counterfeiting products and goods research changed between 1981 and 2022?

In this chapter, we first offer conceptualisation of counterfeit products and goods and its impact on businesses and customers. Second, we elaborate research methodology of conducting bibliometric and scientometric systematic review, arguing how such methodology can offer novel insights and complement previous research reviews in the field. Third, we quantitatively analyse 403 journal articles extracted from SCOPUS database, thereby providing an insight into the volume, trajectory, geographical distribution, influential authors and documents and topical foci within counterfeiting products and goods literature. Finally, we conclude this chapter with recommendations for future research, discussing how different types of reviews and combination of reviewing methods can in fact broaden the perspectives on a particular research topic of interest.

## **Conceptual Framework**

Counterfeit products of original brands and the counterfeiters, who make, circulate and sell these products, pose challenges for marketers and enforcement agencies across the globe (Evans, Starr, & Brodie, 2019; Samaddar & Menon, 2020). Lai and Zaichkowsky (1999) define counterfeit products as goods resembling the original product or imitating branded products (Wang, Lin, & Choi, 2020) that are illegally produced and often of poor quality in terms of their performance, reliability or durability. In that sense, consumers are victims of such malpractices, mistakenly believing that the product they are buying is from the legitimate producer (Cordell, Wongtada, & Kieschnick, 1996 cited in Kahn et al., 2020). Particularly vulnerable to counterfeiting practices are consumers of luxury brands who focus on aesthetic features of a product and are more likely to purchase counterfeit of that product (Elsantil & Abo Hamza, 2021). Counterfeiting is considered as a global economic and ethical problem leading countries, companies and associations to take preventive action in terms of lawful, political or administrative enforcements (Eisend & Schuchert-Güler, 2006). Furthermore, counterfeiting products and goods create a range of potential problems for businesses including loss of sales and profits, consumer dissatisfaction, safety issues, supply chain concerns and even liability risks to the company (Evans et al., 2019). Numerous studies have focused on negative effects of counterfeits

(Chaudhry & Stumpf, 2011; Feinberg & Rousslang, 1990; Hetzer, 2002; Shultz & Saporito, 1996; Yang, Sonmez, & Bosworth, 2004 all cited in Evans et al., 2019). Apart from focusing on negative impact on counterfeiting products and goods, several studies outline benefits of counterfeiting practices on brand awareness in emerging markets (Wall & Large, 2010).

## **Methodology**

This review of research employed bibliometric and scientometric methods, as a subset of systematic reviews of research. One of the main strengths of bibliometric methods is their ability to handle large amount of data extracted from an existing database of studies (Feng, Zhu, & Lai, 2017). In that sense, bibliometric reviews primarily focus on describing, analysing and synthesising features of a knowledge base or literature (e.g. volume, composition, citation impact, research methods, etc.) but do not aim to analyse substantive results or quality of research findings in analysed studies. Hence, their ultimate purpose is to document the composition and evolution of a knowledge base and identify recommendations for future developments in the field (Apriliyanti & Alon, 2017). Recent advances in availability of big data, text mining and various citation analysis tools have encouraged researchers to engage in bibliometric and scientometric analyses with an aim to delve deeper into bibliometric data and employ comprehensive analyses (Van Eck & Waltman, 2017) thereby revealing patterns in bibliometric data which may provide insight into recent developments, research gaps and research fronts in particular scientific fields. A common feature of bibliometric and scientometric analyses is the utility of social network analysis that enables researchers to illuminate structural and relational features of the intellectual base in variety of disciplines (e.g. see Nerur, Rasheed, & Natarajan, 2008; Zupic & Čater, 2015). Basic bibliometric analysis uses descriptive statistics to document ‘topographical’ trends within a body of knowledge (Hallinger & Kovačević, 2019).

In recent years, bibliometric studies have emerged in marketing literature, including bibliometric studies on luxury research (Aliyev, Urkmez, & Wagner, 2019; Gurzki & Woisetschläger, 2017; Husain, Samad, & Qamar, 2021; Rathi, Garg, Kataria, & Chhikara, 2022), and branding (Chabowski, Samiee, & Hult, 2013; Khandelwal, Tripathi, & Gupta, 2021; Ma, Schraven, de Bruijne, de Jong, & Lu, 2019) and on counterfeiting medical products (Sweileh, 2021).

### ***Identification of Sources***

We selected SCOPUS as the primary database for our review. SCOPUS includes larger number of social science and management journals in contrast to the WoS (Mongeon & Paul-Hus, 2016). Moreover, SCOPUS offers sophisticated search utilities as well as the capability to export data in formats that are compatible with MS Excel and bibliometric analysis software. The search for sources within SCOPUS was framed by several search criteria including (1) timeframe, (2) document type and (3) topical focus. The timeframe for the review of documents was the period from 1981 to 2021, as year 1981 appeared as the year in which

research on counterfeiting emerged in SCOPUS database. In that sense, we have focused our efforts on identifying research from that timeframe in order to identify the starting point on the evolution of the topic.

The SCOPUS search engine allows to indicate the ‘type of documents’ to be included in the search including journal articles and reviews, books and conference papers. As this chapter is focused on research published in academic journals, we have selected only ‘articles’ to be included in the sample.

The topical focus of the review was focused on counterfeiting products and goods from 1981 to 2022, within literature in SCOPUS subject areas of business, social sciences, economics, decision-making, arts and psychology. We have generated various search terms that are for use in different inclusion/exclusion combinations. The search terms were applied to searches of the ‘title’, ‘abstract’ and ‘keywords’ fields for articles included in the SCOPUS database. After considerable experimentation focusing on topic of counterfeiting products and goods and variety of approaches to literature reviews (Snyder, 2019), we used the following keyword string to generate the SCOPUS database of reviews included in the sample:

TITLE-ABS-KEY (‘counterfeit good\*’ OR ‘counterfeit product\*’) AND (LIMIT-TO (SUBJAREA, ‘BUSI’) OR LIMIT-TO (SUBJAREA, ‘SOCI’) OR LIMIT-TO (SUBJAREA, ‘ECON’) OR LIMIT-TO (SUBJAREA, ‘DECI’) OR LIMIT-TO (SUBJAREA, ‘ARTS’) OR LIMIT-TO (SUBJAREA, ‘PSYC’)).

The SCOPUS search yielded 403 journal articles published between 1981 and 2022 on the topic of counterfeiting products and goods. In addition, a variety of exclusion criteria were applied during the data cleaning process. Studies of counterfeiting from other SCOPUS subject areas were omitted from the analysis. Review articles from commercial publications that do not employ double blind review process were omitted.

### ***Data Extraction***

Bibliometric data related to review articles were extracted and downloaded from SCOPUS in a CSV (comma-separated values). The stored data included author name, author affiliation, article title, keywords, abstracts and various citation data. The data were then cleaned and prepared for bibliometric analysis in VOSviewer.

We have also extracted data to the MS Excel file. We used Excel, for example, to identify duplicate sources since it offers more flexible search options within the database than either SCOPUS or VOSviewer. We also added additional columns of data to the spreadsheet so that further analyses could be conducted using Excel.

### ***Data Analysis and Results***

#### ***Descriptive Analysis***

Descriptive analysis has been employed to reveal important details related to the journal articles from the SCOPUS sample. In this sense, the analysis has offered

the number of publications per decade, the most prolific journals, the most productive authors and nations from which research studies originate. Fig. 1 displays the number of publications per decade, starting from 1981 until 2022.

Notably, the most significant number of published papers ( $n = 256$ ) originates from the period 2011–2020. If this frequency of publication is compared with the frequencies of previous periods ( $n = 10$  for 1991–2000 and  $n = 97$  for 2001–2010), it is evident that the scholarly interest for writing research on counterfeiting products and goods has been significantly intensified. Data for years 2021 and 2022 imply that this trend will continue, as 39 papers have been published in a time span of only one year. If such annual trend continues in the subsequent years, it could be expected that the total number of scholarly articles on counterfeiting products and goods for period 2021–2030 will exceed 300 articles.

In the context of the most productive and most cited journals, Fig. 2 displays the journals with the highest number of published papers in the selected field, as well as journals with the highest number of citations within the sample. *The Journal of Business Ethics (JBE)* has the highest frequency of publishing ( $n = 11$ ), after which *Business Horizon (BH)* follows with 10 research articles published and *Journal of Business Research (JBR)* with nine articles published within the observed period from 1981 to 2022. Interestingly, all three journals are characterised by high-impact factor and high rankings within research in the domain of business (*JBR* with IF 7.55 ranking 28/153 in Business; *JBE* with IF 6.430 ranking 42/153 in Business and *BH* with IF 6.361 ranking 43/153 in Business). All three journals typically cover broad business-related issues, with *JBE* focusing on broader domain of business ethics and corporate social responsibility.

*JBR*, *JBE* and *BH* cumulatively count 1.189 citations (namely *JBR* 507 citations, *JBE* 480 citations and *BH* 202 citations), representing 56% of total citations

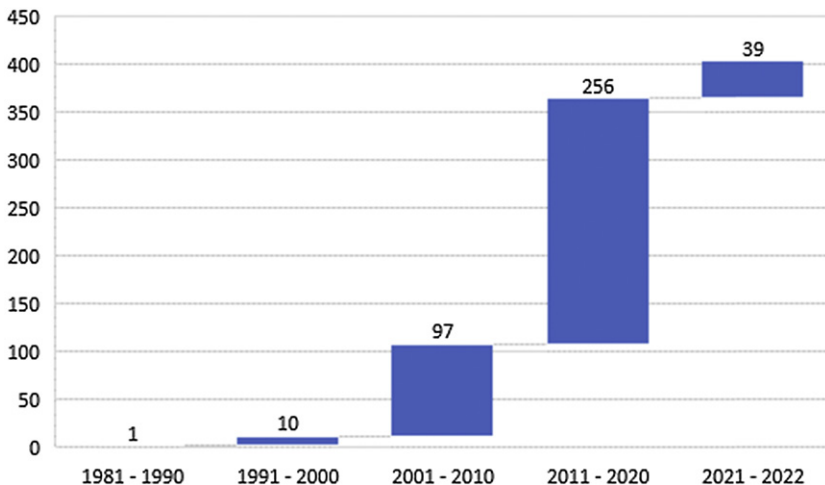


Fig. 1. Number of Publications per Decade.

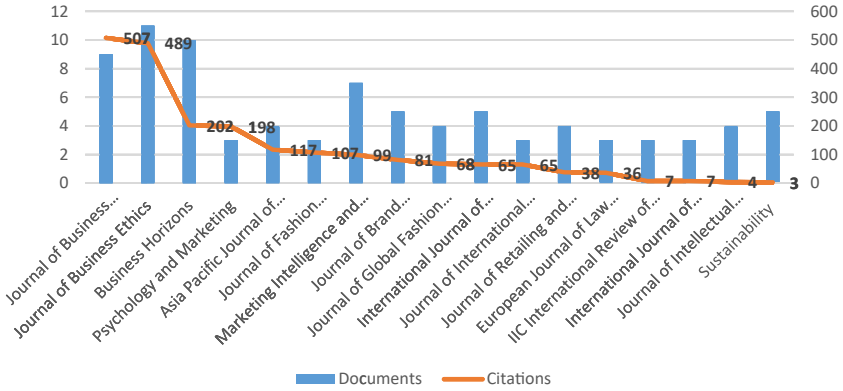


Fig. 2. The Most Productive and Most Cited Journals.

for all journals in the sample, as illustrated in Fig. 2. Other productive and frequently cited journals in the sample include journals with specific and narrower focus, including *Psychology & Marketing*, *Asia Pacific Journal of Marketing and Logistics*, *Journal of Fashion Marketing and Management*, *Marketing Intelligence and Planning*, *Journal of Brand Management*, *Journal of Global Fashion Marketing*, *International Journal of Consumer Studies*, *Journal of International Consumer Marketing* and others.

As Fig. 3 illustrates, the highest number of papers in the SCOPUS sample is published by authors originating from the US (89 articles), followed by scholars from the UK (38 articles), China (28 articles), Hong Kong (25 articles), Australia (21 articles) and Canada (21 articles). A similar pattern is noticeable with the

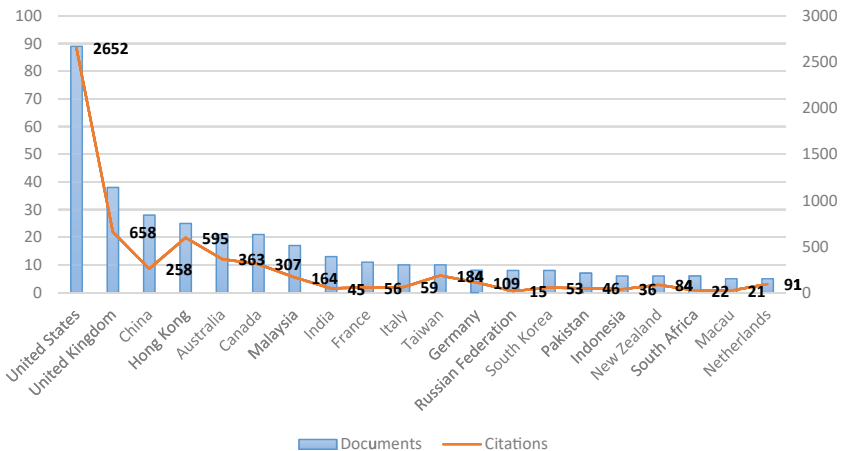


Fig. 3. The Most Productive Societies.

number of citations, with articles originating from the US having the highest number of citations ( $n = 2,652$ ), followed by cited articles from the UK ( $n = 658$ ) and Hong Kong ( $n = 595$ ). Geographical distribution of literature on counterfeiting products and goods indicates that the topic is of global interest, as there is a noticeable geographical diversity of studies within the sample.

### **Influential Authors and Documents**

Another strength of bibliometric analysis is the ability to identify key scholars and documents within a field of research (Börner, Chen, & Boyack, 2003; Nerur et al., 2008; White & McCain, 1998). Such analytical approach includes ranking authors by the number of publications to identify productive scholars as well as by citations to evaluate scholarly impact and patterns of growth in different topical domains of research. In alignment with findings from geographical distribution of research on counterfeiting products, analysis of the most productive authors reveals that top 10 cited authors come from the US, Australia, Hong Kong and Germany. Five most cited authors, including Peggy Chaudhry from Villanova University, Alex Zimmerman from CUNY, Stephen Stumpf from Villanova University, Ricky Chan from Hong Kong Polytechnic University and Piyush Sharma from Hong Kong Polytechnic University have been cited 619 times, which represents approximately 11% of total 5,780 citations in the sample. This finding reveals a high citation impact that these authors have on other scholars investigating counterfeit products and goods (Table 1).

Research focus for the majority of most cited authors from the sample of 403 papers encompasses research domains of counterfeits, consumer psychology, luxury branding and intellectual property rights.

Table 2 lists the most cited articles and SCOPUS citations within the SCOPUS sample of articles. The earliest most cited documents within SCOPUS sample are authored by Wee, Tan, and Cheok (1995) on non-price determinants of intention to purchase counterfeit goods, Cordell et al. (1996) on lawfulness attitudes and product traits as determinants of intention to purchase counterfeit products, Tom, Garibaldi, Zeng, and Pilcher (1998) on consumer demand for counterfeit products, and Chan, Wong, and Leung (1998) on ethical beliefs on Chinese customers. The latest most cited document originates from 2016 and is authored by Bian, Wang, Smith and Yannopoulou, and it is concerned with new perspectives related to counterfeit consumption.

White and McCain (1998) asserted that texts that sustain high citation impact over a period of several decades qualify as 'canonical texts' within a field of study. Canonical documents have stood the test of time and often help establish the intellectual foundations in a field of study. With an aim of identifying canonical documents, we have conducted document co-citation analysis in VOSviewer. The top co-cited documents listed in Table 3 spanned a period from 1988 to 2011. The earliest of these documents were authored by Grossman and Shapiro (1988), Cordell et al. (1996), Tom et al. (1998), and Albers-Miller (1999). The most recent documents were authored by Perez, Castaño and Quintanilla (2010) and Chaudhry and Stumpf (2011).