Supply chain performance measures and metrics: A bibliometric study

Abstract

Purpose: The purpose of this study is to review the existing literature on supply chain performance measures and metrics (PMMs). It provides a critical evaluation of 234 articles published in past 24 years.

Design/methodology/approach: The paper examines the studies published from 1991 to 2014 by adopting the bibliometric technique of citation and co-citation analysis.

Findings: The analysis of the results indicate that the number of articles on supply chain PMMs is increasing at its fastest pace in the past few years. Furthermore, the study identifies some of the most influential articles on performance measurement and metrics. Finally, it concludes that there has been a transition from traditional to more sophisticated performance measurement system.

Research limitations/implications: This study focuses only on supply chain performance measurement and metrics and excludes research on performance management and control. Thus, researchers may explore and extend this area of research.

Originality/value: To the knowledge of the authors, this is the first study to review the literature on supply chain PMMs by using citation and co-citation analysis. The study includes 234 articles over the time period of 24 years (1991-2014).

Keywords: Performance measurement, Performance measures and metrics, Supply chain measurement systems, Citation and co-citation analysis.

Paper type: Literature review

1. Introduction

Over the last years, supply chain management (SCM) has emerged as a prime factor to increase organizational effectiveness and for accomplishment of organizational goals. With the considerable development in the area of SCM, both researchers and practitioners are interested in measuring supply chain performance. According to Neely (1994), "a performance measurement system can be defined as the set of metrics used to quantify both the efficiency and effectiveness of actions". The significance of measurements is stated by Kaplan (1990) who claimed that "No measures, no improvement". Gunasekaran and Kobu (2007) highlighted the purposes of a

performance measurement system: (a) identifying success; (b) identifying whether customer needs are met; (c) helping the organization to understand its processes and to confirm what they know or reveal what they do not know; (d) identifying where problems, bottlenecks, waste, etc. exist and where improvements are necessary; (e) ensuring decisions are based on facts, not on supposition, emotion, faith or intuition; and (f) showing if improvements planned actually happened (Parker 2000). Having appropriate measurement systems as well as measures and metrics in place allows for performance measurement that is 'vital in strategy formulation and communication and in forming diagnostic control mechanisms by measuring actual results' (Wouters, 2009).

However, so far only a handful of articles have reviewed the existing literature but to the best of our knowledge no study has provided a systematic review using citation/co-citation analysis for understanding the wide variety of research studies on the topic of supply chain PMMs. To address this gap, in this paper we review articles on supply chain PMMs. Since supply chain performance has grown significantly over the last 15 years, we include articles published from 1991 to 2014. In doing so, we aim to rediscover the concept of supply chain performance measures by fulfilling the following objectives: (i) understand the supply chain PMMs; (ii) systematically review the literature on supply chain PMMs using citation and co-citation analysis; (iii) synthesize the findings of the literature review; (iv) identify future research directions.

We have chosen the technique of bibliometrics of the articles published during 1991-2014 as it provides a way to quantitatively analyse the literature by studying citations and co-citations (Pilkington and Meredith, 2009). In order to examine the current structure of research on supply chain PMMs, we performed citation and co-citation analysis. Citation analysis is a quantitative technique that provides information on the degree of influence of a research article on a specific field whereas, co-citation analysis traces the linkage and connection between the authors and their areas of research. Citation analysis enables researchers to understand when the major articles in a field were published and how their popularity has evolved over time, and hence if an article is still useful for current research (Pilkington and Meredith, 2009). Co-citation analysis can reveal the major research clusters within a particular field and how they evolve and vary across different journals over time. Leydesdorff and Vaughan (2006: in Pilkington and Meredith, 2009) suggest that data received through co-citation "can be considered as such linkage data among texts, while cited references are variables attributed to texts…one should realize that network data are different from attributes as data. From a network perspective, for example, one may wish to focus on how the network develops structurally over time."

Bibiometric analysis have been followed in fields adjacent to OM and SCM, such as Information Systems (Culnan, 1986), innovation (Cottrill et al., 1989), and strategic management (Nerur et al. 2008). Within the OM and SCM field, Pilkington and colleagues (Pilkington and Liston-Heyes, 1999; Pilkington and Fitzgerald, 2006; Pilkington and Meredith, 2009) have used citation and co-citation analyses to identify the evolution of research trends within the OM field. In later studies, Citation Network Analysis (CNA) was introduced in systematic literature review studies to pursue an objective approach for research domain classifications (e.g., Chen and Redner, 2010; Colicchia and Strozzi, 2012; Fan et al., 2012; Fahimnia et al., 2015). In this paper we follow the argument of Pilkington and Meredith (2009) and suggest that there is a need to look at the field of PMMs in SCM more objectively and answer, "what articles are actually cited in research studies? And to reveal the structure of the interrelationships among articles, what works are commonly cited together (co-cited)?" (p.186).

The remainder of the paper is as follows. The next section discusses the criteria used for classifying the literature on supply chain performance measures and metrics. It follows the theoretical background of supply chain PMMs and the presentation of the results of our citation and co-citation analysis. The fourth section discusses the current and future trends in supply chain performance measures and metrics based on our results, and the fifth section identifies the managerial implications from our review of the supply chain PMMs. The last section presents the limitations and concludes the study.

2. Methodology for reviewing the literature on supply chain performance measures and metrics

Our analysis was carried out in two stages:

Stage 1: Citation analysis was performed to evaluate the citation frequency on a particular document. According to Garfield (1972), the total number of citations on a scientific journal indicates its significance in that area of research. Moreover, scholars (Sharplin and Marby, 1985; Culnan, 1986) emphasized that the impact of heavily cited articles on scientific research is greater than that of less cited articles. Despite the critics of citation analysis, it is still regarded as one of the most commonly used techniques for analysing literature and identifying the most influential author, journal, or work in that particular area of research (Mac Roberts and Mac Roberts 1989, 2010; Vokurka 1996).

We collected raw data for citation and co-citation analysis from different online databases such as, ISI Web of Science (WoS) and Scopus. Since the number of journals in the database of WoS is limited as compared to Scopus, we restricted ourselves to select relevant papers from Scopus database only. In fact, the process of citation and co-citation analysis has been considerably simplified due to the advancement in IT and online data storage. Then we selected those publications that contained keywords including *'performance measurement', 'performance measures and metrics', 'supply chain performance measurement system' and 'performance measures'* and their combination in their title, abstract and paper keywords. We divided the time period of 24 years (1991-2014) into three equal and consecutive 8-year sub periods; 1991-1998, 1999-2006, and 2007-2014. For the sake of clarity, we performed the same keyword search for all three sub-periods. The document search for the first period (1991-1998) resulted in 2,441 number of publications which were further analysed based on their relevance with the topic of our study. Similarly, we obtained 6,378 and 18,145 articles in second (1998-2006) and third (2007-2014) time periods, respectively. Following the objectives of our study, we restricted those articles to scientific publications (articles, reviews and conference papers) that appeared in renowned peer reviewed journals as these can be considered as "certified knowledge" (Rodriguez et al., 2004). For data purification, we excluded unpublished articles, working papers and newspaper articles from the database. This search resulted in 234 relevant documents comprising of 47, 91 and 96 articles in the three consecutive sub-periods. Later on, references and citations were recorded in a database for future analysis. The distribution of articles by journal title is depicted in Table 1.

Table 1: Distribution of the articles by journal title

Journals	Number of articles
International Journal of Operations and Production Management	70
International Journal of Physical Distribution and Logistics Management	1
Benchmarking: An International Journal	24
International Journal of Production Economics	27
International Journal of Production Research	33
Production, Planning and Control	15
Harvard Business Review	5
Business Horizons	5
Supply Chain Management: An International Journal	13
International Journal of Productivity and Performance Management	41
Total	234

Stage 2: Co-citation analysis was conducted to investigate the relationships between authors, topics, journals or keywords, thus elucidating how these groups are related with each other (Small, 1973; Pilkington and Liston Heyes, 1999). Chen et al. (2010) claimed that co-citation analysis can be

conducted either on the basis of authors or publications, where, the former helps in manifesting the social structure and the latter reveals the intellectual structure of research field. For that reason, we considered those publications based co-citation analysis. In this analysis, the number of scientific articles which have cited any particular set of two documents are recorded and researchers decipher it as a measure for resemblance of content of the two documents (Figure 1).

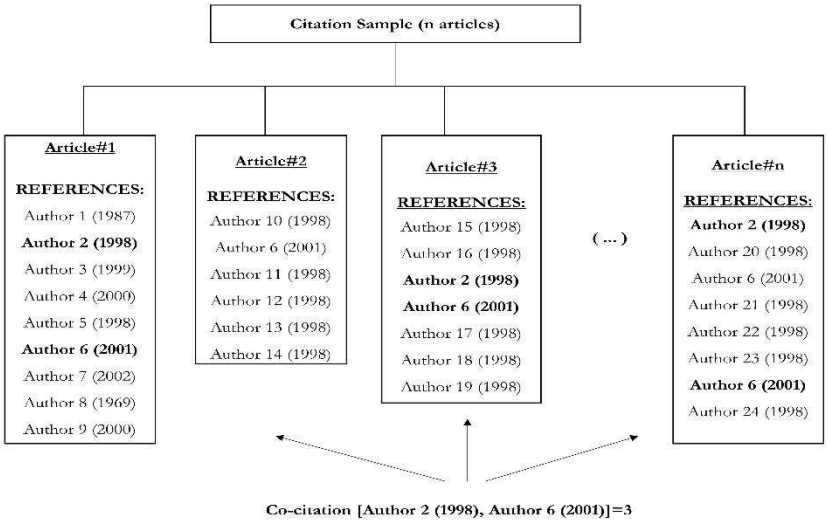

Figure 1: Co-citation count (adopted by Rodriguez et al., 2004)

The co-citation analysis was conducted as follows. We analysed the citations of scientific articles received from Step 1 to find out if any pair of reference has been cited together. This co-occurrence gives an indication that these scientific articles apparently share similar thoughts. In this regard, Pilkington and Meredith (2009) pointed that this collection of articles may be termed as "structural knowledge group". As per Leydesdorff and Vaughan (2006), such groups delineate the intellectual structures of a field. The co-citation analysis was conducted using Bibexcel version 2014-03-25. It is a bibliometric toolbox developed by Olle Persson (Persson et al., 2009) through which connection with other software's such as, Pajek, Excel and SPSS becomes easy and trouble-free network diagrams were drawn in Pajek 2.05 software. These diagrams were further refined by removing very thin lines and a Kamada-Kawai diagram was finally drawn. In the diagrams, the vertices (nodes) represent the co-cited articles and the arcs (connecting lines) represent the strength of their relationship. Thick arcs reflect that those works have been co-cited the most and they likely share common thoughts. As thickness reduces, the connection between articles becomes weak.

2. Review of supply chain performance measures and metrics

In this section we report on our literature review on supply chain PMMs. Furthermore, we identify those articles that highlight the need for performance measurement systems, and we provide and discuss a comparison of traditional and modern supply chain PMMs.

2.1 Performance measures and metrics: Definitions and concepts

As per Neely et al. (1995), performance measure is "a set of metrics which helps in quantifying the efficiency and/or effectiveness of an action". Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action (Neely et al., 1995). The Global Logistics Research Team at MSU (1995) identified performance measurement as one of the major key competencies for achieving world class performance. There are well known theories explaining the origin of the concept of performance measurement. According to Johnson and Kaplan (1987), the concept originated at the time of industrial revolution. However, Morgan (2004) believed that modern performance measurement came into existence during the fifteenth century in Venice. Further, Kaplan and Norton (1997) pointed that a performance measurement system (PMS) should contribute in providing adequate information to managers on issues related to finance, customer internal processes and innovation and improvement.

Neely et al. (1995) noted that a "metric" is merely not a formula to compute the measure. However, it involves the title of the measure, how it will be calculated, who will be carrying out the calculation, and from where the data will be obtained. The most challenging task is to find out key performance measures that add value to the organization and also identify the factors that have an impact on core business operations.

2.2 Supply chain performance measures and metrics

The concept of "supply chain performance measures" has captured the interest of academics over the past few decades (Taticchi et al., 2010). Due to advancements in technology and globalization, firms these days are forced to alter the manner in which they perform in the market (Bititci et al., 2008). Therefore, it is very important to develop an effective supply chain performance measurement systems so that firms can utilize their resources economically while at the same time satisfy their customers (Neely et al., 2005). Nonetheless, the task of controlling and enhancing the performance of a supply chain is becoming more and more intricate (Cai et al., 2009). The rationale behind this intricacy lies in the fact that performance measures may vary in terms of their context and are determined by the strategy and structure of the supply chain and the characteristic of products. As a result, supply chain PMMs and subsequently performance measurement systems

need to be critically evaluated before being generalised for any particular industry. This gives a justification for the importance of timely development and improvement of supply chain PMMs.

Indeed, PMMs have undergone a huge transformation from conventional to advanced and balanced techniques for measuring supply chain performance. The traditional approach was to consider financial metrics as performance measures. These metrics provided information on organizational performance at present but did not provide projections on future performance. As noted by Kaplan and Norton (1992), financial performance measures may have worked well in the early years, but are now part of a wider agenda that organizations need to consider in order to become competitive. They suggested "balanced scorecard" as a way to achieve strategic alignment by maintaining a balance between financial and nonfinancial measures (Kaplan and Norton, 1992). From the beginning to the end of 1980s and early 1990s, researchers provided different sorts of frameworks to manage firm performance such as, performance measurement matrix (Keegan et al., 1989), performance pyramid (Lynch and Cross, 1991), results-determinants framework (Fitzgerald et al., 1991), balanced scorecard (Kaplan and Norton, 1992) and the Cambridge Performance Measurement Process (Neely et al., 1995). Later on, the performance prism was proposed by Neely et al. (2001; 2002). In this direction, Supply Chain Council had made a remarkable contribution by developing a supply chain operation reference (SCOR) model which provides a way to characterize those practices and processes associated with supply chain management which lead superior performance.

Although various supply chain PMMs have been proposed (Gunasekaran et al. 2004, 2005, Folan and Browne 2005, Fynes et al. 2005), very few, if any, have attempted to propose a minimal number of metrics in measuring the performance of a SCM system. Thus, there exists a need to determine a set of metrics that can be used to measure a SCM system's performance with maximum effectiveness and minimum operating cost. Scholars (Beamon, 1999; Gunasekaran et al., 2001; 2004) noted that decision makers should lay more focus on development of PMMs. In view of Chan (2003), performance measurement acts as a feedback on activities concerning customer expectations and strategic objectives, thereby providing a way to improve the areas where the performance is not satisfactory. The seminal work of Gunasekaran et al. (2004) developed a framework on supply chain performance measurement and validated it using survey data. They further provided a classification of measurement and metrics of a supply chain.

Gunasekaran and Kobu (2007), in their review and classification of supply chain PMMs, classified literature on the basis of balanced scorecard, components of measures, location and nature of measures, measurement base, traditional versus modern measures and decision levels. Furthermore, they grouped various metrics into different classes such as, order planning, supplier evaluation, production level, delivery and customer service and allocated importance ratings inside each class via empirical research. They also highlighted the interest captured on performance measurement and metrics by academicians and practitioners. The argument provided in their research was further supported by McCormack et al. (2008). In a later study, Martin and Patterson (2009) offered three classes of PMMs, that is, inventory, cycle time and financials. At the same time, they conducted a survey based study and investigated the influence of supply relations on PMMs.

3. Supply chain performance measures and metrics: citation and co-citation analysis

In this section we identify the influential scientific contributions in the field of supply chain PMMs. This section is divided in two sub-sections. In the first, we discuss the results of our citation analysis, whereas in the second section we present and comment on the results of the co-citation analysis for each of the three periods.

3.1 Citation analysis

3.1.1 Early 1990's to late 1990's (1991-1998)

The most influential article in this era is the seminal work published by Kaplan and Norton (1992) which has been cited 3839 times. The authors pioneered a performance measurement system known as "balanced scorecard" which provides a quick and comprehensive perspective of the business to top management. This measurement system helps the managers to get rid of the inadequate traditional performance measurement system. The next important contribution has been made by Neely et al. (1995) where the authors focused on the process of performance measurement system design and provided a comprehensive review of the literature. This work received 662 citations which reflects the significance of the article in the field of performance measurement. Furthermore, the first article of this era by Eccles (1991) devoted to the study of performance measurement has been cited 447 times. Only 8 of the remaining articles have been cited more than 100 times and seventeen percent of the articles have received less than 10 citations. The peaks of Figure 2 demonstrate the influential works published between 1991 and 1999. These papers are also briefly reviewed in Table 2A (Appendix).

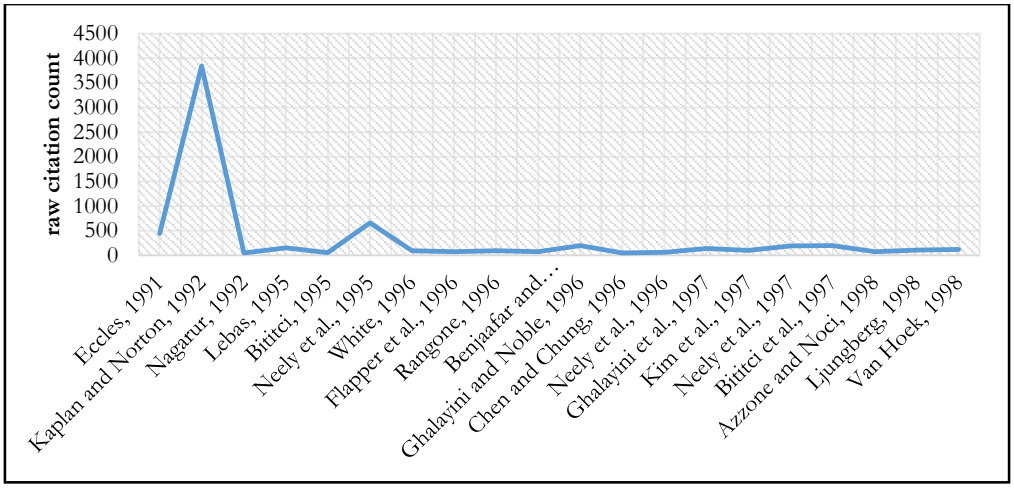

Figure 2: Frequency distribution of most cited articles (1991-1998)

3.1.2 Late 1990's to mid 2000's (1999-2006)

Beamon (1999) made a revolutionary contribution by developing a universal framework for selecting supply chain performance measures. The author identified three types of PMMs: resource, output and flexibility, which are the necessary constituents of any supply chain performance measurement system. The article by Beamon (1999) with 713 citations has been the most influential work of this era. A fine piece of work by Gunasekaran et al. (2001) that received 650 citations becomes the second most important article of this time period. In their work, a framework for measuring the performance of a supply chain at three levels (strategic, tactical and operational) was developed and a set of key performance metrics was presented. The third most significant work of this era was by Gunasekaran et al. (2004) who developed a framework and highlighted the importance of SCM PMMs. Their idea of viewing performance measures and metrics through the lens of SCM has stimulated scholars to further explore this emerging area. The impact of their work can be identified from the fact that till now 582 scientific articles have been published based on their work. Out of the remaining articles, 5 have been cited over 200 times and 12 articles have received more than 100 citations. Interestingly, only 11 percent articles have less than 10 citations. The three major peaks of Figure 3 demonstrate the influential works published between 1999 and 2006. These papers are also briefly reviewed in Table 2B (Appendix).

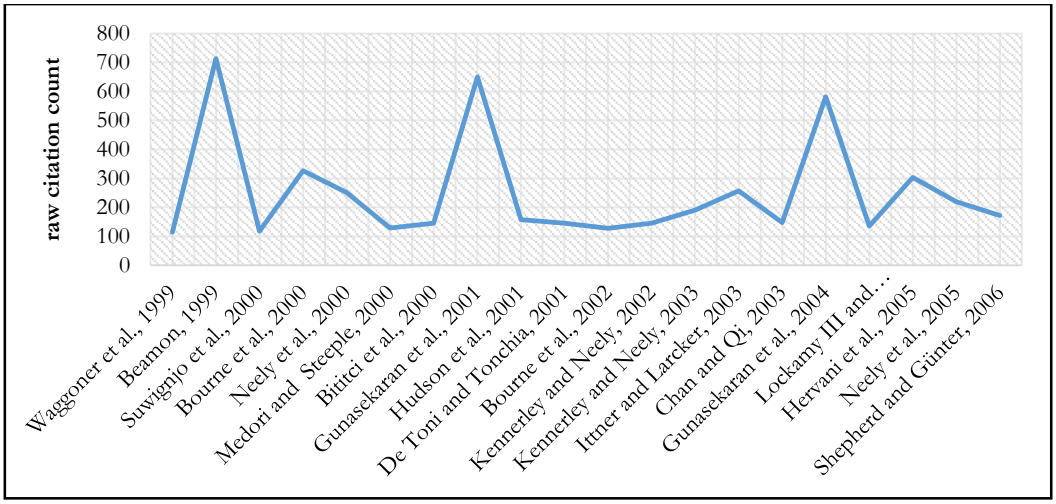

Figure 3: Frequency distribution of most cited articles (1999-2006)

3.1.3 The recent years (2007-2014)

In the third era, the most significant scientific work on the issue of performance measures and metrics was published by Gunasekaran and Kobu (2007) and since then, it has been cited 149 times. Their work is an important contribution as it specifically addressed the key performance measures and metrics in supply chain and logistics operations. Furthermore, other scholars including Lee et al. (2007), Giannakis (2007), as well as Hassini et al. (2012) have also been influential. In particular, Lee et al. (2007) have studied the relationship between the links in the supply chain and performance, as defined by cost-containment and reliability of partners. Following a survey they conducted with relevant stakeholders, they found that with regards to cost-containment internal integration was the most important factor, while supplier integration was vital to achieving reliable performance. Their study called for further investigation of both financial and other PMMs for supply chain, which would provide innovative insights for managing supply chains but also for planning and executing supply chain strategies. At the same year, Giannakis (2007) has proposed an analytical model for assessing supplier relationships' performance. Giannakis underlines the importance of considering both hard and soft features of business (and hence supplier) relationships. The soft PMMs include, for instance, the perceptions of the participating parties regarding their partners' performance to the relationship. The model can be used with both qualitative and quantitative data and help suppliers in selecting appropriate strategies that minimise the gap in partners' perceptions of particular relationships. In a later study, Hassini et al. (2012) have reviewed the literature on sustainable supply chain management and recognised the importance of PMMs for maintaining supply chain practices. In their illustrative case study, they showed the practical side of PMMs, that is, the industry demands such indicators

and acknowledges their complex nature; and they developed a framework for PMMs in sustainable supply chains. The framework illustrates the need for further research on PMMs in each of the economic, environmental, and societal pillars of sustainability and for each of the different supply chains partners (Supplier, manufacturer, distributor, retailer, and customer). These papers are also briefly reviewed in Table 2C (Appendix).

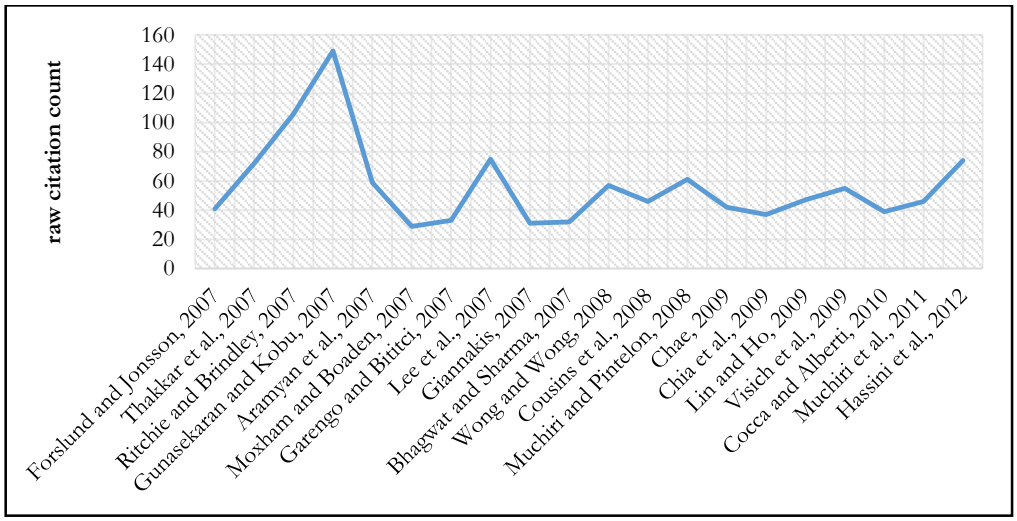

Figure 4: Frequency distribution of most cited articles (2007-2014)

The citation frequency of influential articles of each era can be seen in Table 3 (Appendix). Figure 5 demonstrates the changing pattern of publications in each year, starting from 1991 till the end of 2014. As can be clearly seen from the figure that major work on performance measurement system initiated in 1992 with the advent of "balanced scorecard". During years 1993 and 1994, the number of publications on performance measurement increased slowly. A similar pattern can be noticed between the years 1996 to 2004. Interestingly, a dramatic rise in publications of this field can be observed thrice that is in years 1995, 2005 and 2014. Therefore, we can sum up that after a number of ups and downs, this area has been able to retain the interest of scholars and practitioners.

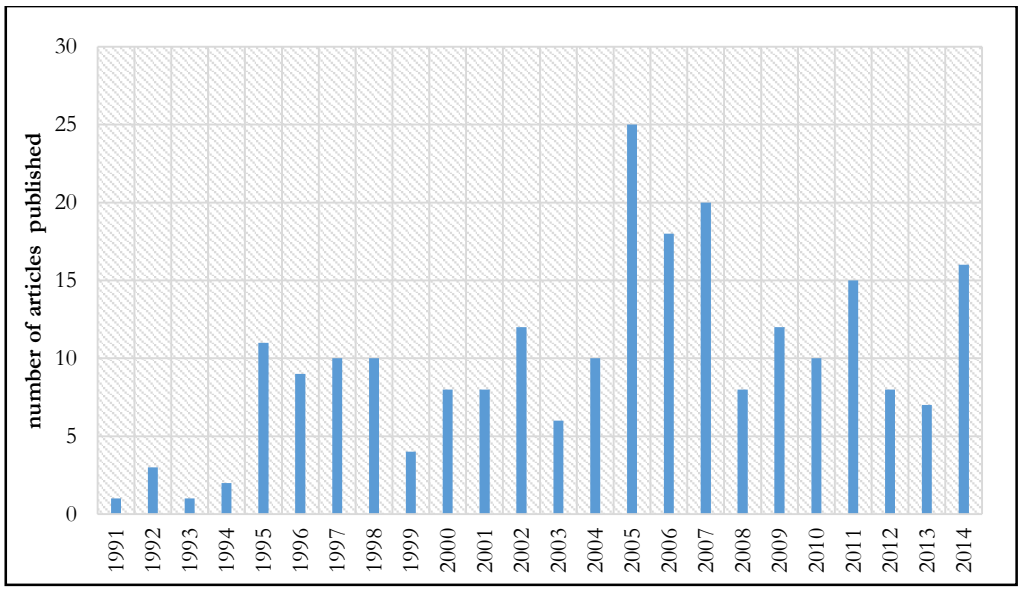

Figure 5: Frequency distribution of number of articles published during 1991-2014

Turning our focus now to identify the journal contribution to this particular area, we analyse the number of publications in 10 chosen journals during the time period 1991-2014. It is evident from the shape of the graph that the highest peak represents International journal of operations and production management (IJOPM) which reflects that this journal has given the maximum contribution to this field.

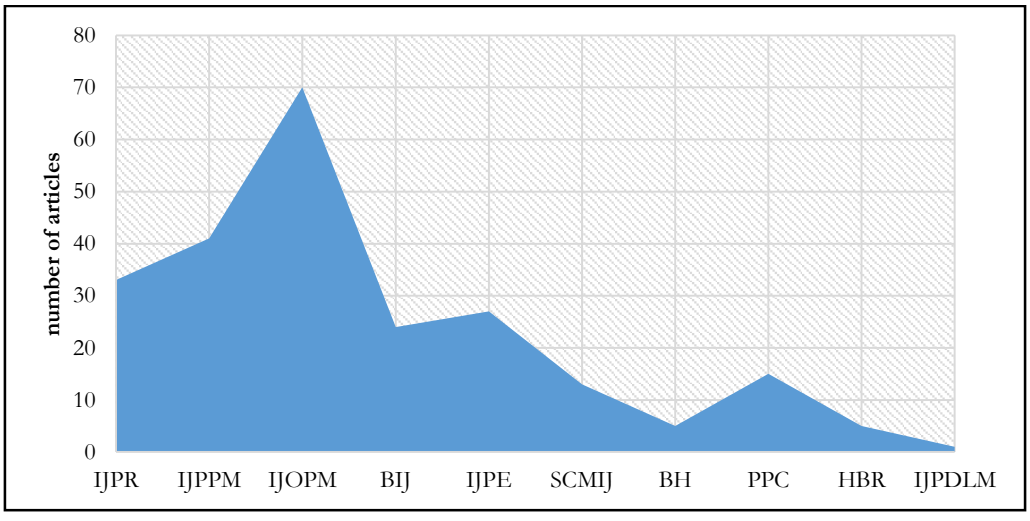

Figure 6: Frequency distribution of number of articles published in selected journals

Also, the graph illustrates that Benchmarking: An International journal (BIJ) and International Journal of Productivity and Performance Management (IJPPM) are among the emerging journals which are contributing by publishing articles on this area.

3.2 Results of Co-citation analysis

In this section we report the results of co-citation analysis for each of the 3 clusters of studies on supply chain PMMs. Figure 7, 8 and 9 present the co-citation analysis for the three eras (1991-1998, 1999-2006 and 2007-2014). In the figures the different research works are presented as nodes and their relationships in arcs that have different width. This reflects the difference in the nature of relationship between these articles. The thick arcs extrapolates the strong relationship between the two co-cited articles. In contrast, the thin arcs indicate that the co-cited articles apparently do not share common ideas. The maximum co-citation value of the publications can be seen in Table 4 (Appendix).

3.2.1 Early 1990's to late 1990's (1991-1998)

Figure 5 presents the co-citation analysis for the first cluster that inlcudes the years 1991-1998. In the figure the different research works are presented as nodes and their relationships in arcs that have different width. This reflects the difference in the nature of relationship between these articles. For instance, the arc between Kaplan (1983) and Kaplan and Norton (1992) is thick; extrapolates the strong relationship between the two co-cited articles. A similar observation can be made for the case of Crawford and Cox (1990) and Fry and Cox (1989). In contrast, the arc between Neely et al. (1995) and Fry and Cox (1989) or, between Neely et al. (1995) and Crawford and Cox (1990) is thin, indicating that these articles apparently do not share common ideas.

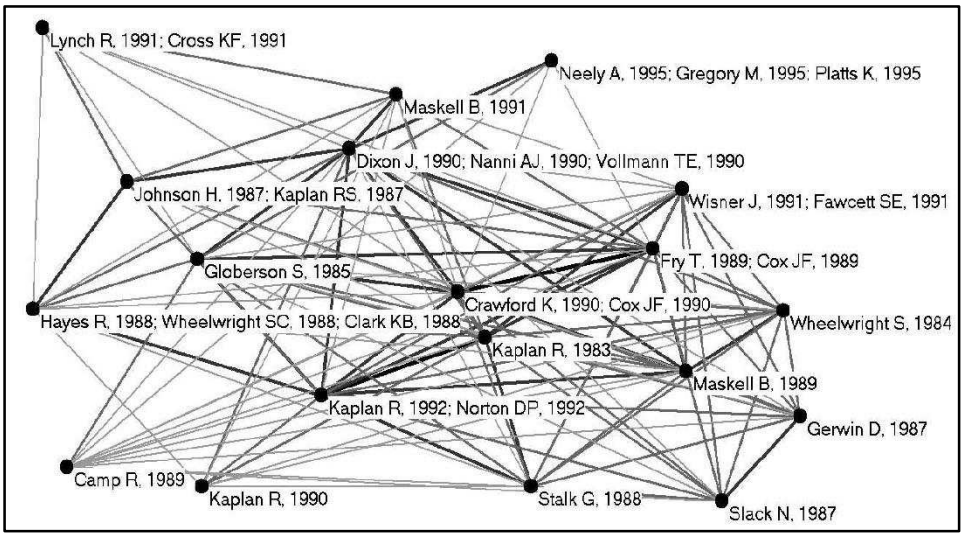

Figure 7: Co-citation analysis for the first cluster (1991-1998)

3.2.2 Late 1990's to mid 2000's (1999-2006)

The relationship between the co-cited articles of era 2 (1998-2006) can be seen in Figure 6. It is clear from the diagram that the arc between Kaplan and Norton (1992) and Kaplan and Norton (1996) is thick which depicts that there exists a strong relationship between the two co-cited articles. A similar relationship can be seen in the case of Kaplan and Norton (1992) and Dixon et al. (1990). However, it is apparent from the arc between Neely (1998) and Wisner and Fawcett (1991) or, between Neely (1998) and Lynch and Cross (1991) is thin which indicates that these articles have weak relationship.

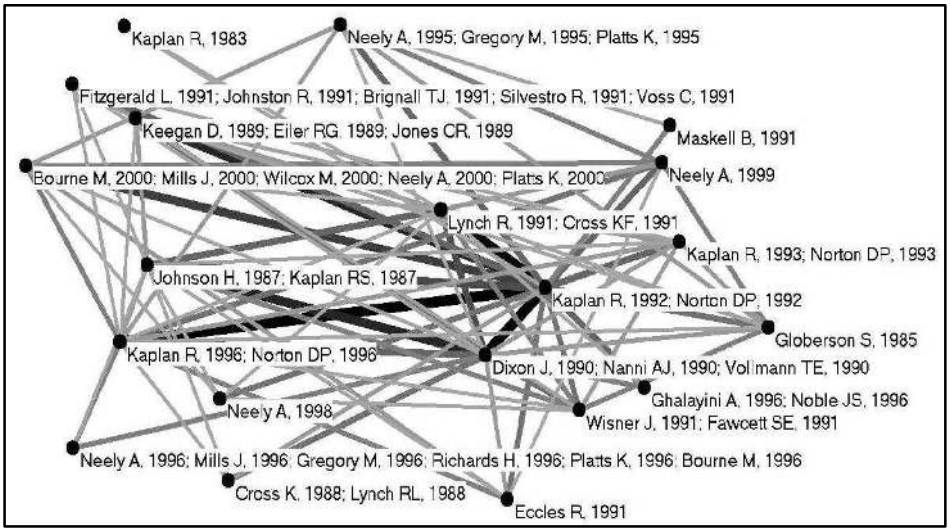

Figure 8: Co-citation analysis for the second cluster (1999-2006)

3.2.3 The recent years (2007-2014)

The figure below shows the relationship between the co-cited articles of era 3 i.e., 2007-2014 (Figure 7). Here, the thick arc between Kaplan and Norton (1996) and Kaplan and Norton (1992) as well as between Gunasekaran and Beamon reflects a stronger relationship between the two co-cited articles, as compared to a thinner arc between Keenerley and Neely (2003) and Neely et al. (2002) which shows a weaker relation.

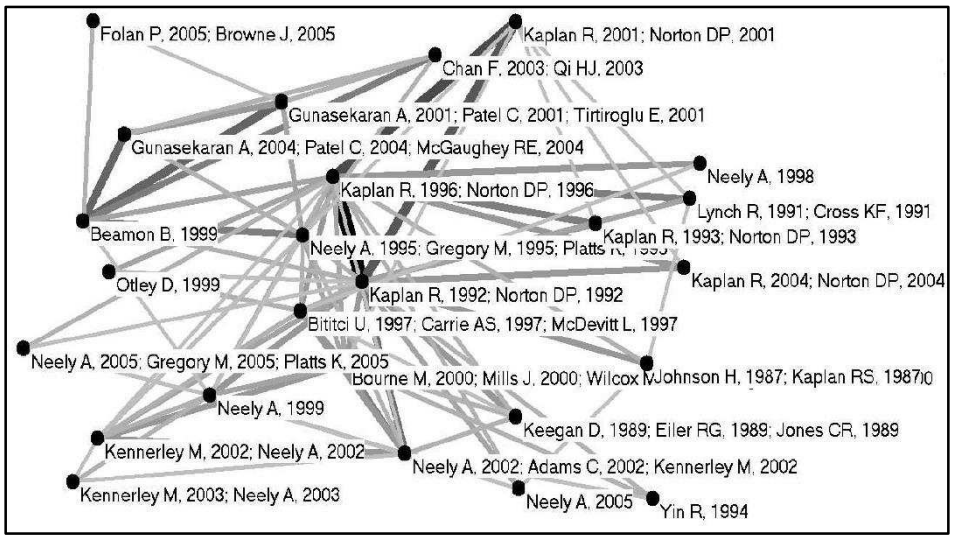

Figure 9: Co-citation analysis for the third cluster (2007-2014)

4. Current and future trends in supply chain performance measures and metrics

Our results reveal that the nature of performance measures and metrics has changed over the years. It was with the beginning of era 1 when the conventional performance measurement system was replaced with a new and flexible performance measurement system (Kaplan and Norton, 1992). This era marked the development of frameworks to overcome the criticism faced by earlier financial measures by providing a balance between financial and operational measures. No matter if the seminal paper by Kaplan and Norton argued for a broader view of PMMs, the papers in this era were either empirical papers that perpetuated the use of tangible PMMs, or conceptual papers that stated the need to include both tangible and intangible PMMs in measuring supply chain performance. The review articles published during that period, especially by Neely, Bititci, and colleagues illustrate the need to adopt new/alternative lenses to explain supply chain performance related phenomena, and make the case for different methodologies and methods (both quantitative and qualitative) to be applied (Table 2A). This is also shown in the co-citation analysis, represented by the arcs amongst the works of Kaplan (1983) and Kaplan and Norton (1992), as well as Neely and colleagues (Figure 5).

The second era presents an attempt to resolve these issues, where various processes and methods are developed (Table 2B). The number of reviews and conceptual articles here is relatively lower than in era 1, since here scholars aim to apply and explore the use of PMMs within performance measurement systems, and discuss the challenges in their application, as well as lessons to be learnt from the successful or unsuccessful application (e.g. Bourne et al., 2002). Furthermore, researchers explore relationships between different PMMs as well as expanding the use of PMMs in adjacent SCM fields, such as green SCM (Hervani et al., 2005). However, there are limited, if any, studies

here that (i) use mixed methods to apply PMMs; (ii) apply alternative theories and lenses to explain the application of PMMs; (iii) propose practice-based frameworks that may inform research on PMMs in SCM and bridge the gap between academia and practice; and (iv) suggest mathematical modelling and techniques to study PMMs and their application in supply chain. The co-citation analysis (Figure 6) suggests that still the works of Kaplan and Kaplan and Norton are influential across domains and journals as research on PMMs evolves, but the aforementioned challenges are yet to be fully addressed.

In the third era the number of empirical studies that use non-financial measures on PMMs and follow qualitative methods to study their application is popular, as inferred from Table 2C. The review studies are limited, and this shows that in this era scholars are investigating the applications of PMMs and conduct empirical studies. Finally, there are studies that distinguish the application of PMMs in different contexts (e.g. SMEs) (Garengo and Bititci, 2007) and adjacent fields, e.g. the study of Hassini et al. (2012) on sustainable supply chain performance that provide expand current thinking. Still, the same challenges remain as in era 2, including the application of mixed methods and alternative theories, as well as the use of purely mathematical techniques (e.g. modelling). Scholars carry out empirical analysis of the proposed frameworks (Gunasekaran et al., 2004). The co-citation analysis (Figure 7) reveals the impact of Kaplan and Norton papers across domains and journals, which is reflected in the need for applying different types of PMMs in diverse contexts and discuss the related challenges.

4.1 Future trends in supply chain performance measures and metrics

Based on our previous review, we propose the following as some of future research directions:

1. We provide a classification of supply chain PMMs over time and split the period 1991-2014 in three sub-periods. Future works could classify those papers differently; for instance, they could follow Fan et al. (2012) who inductively classified articles on occupational health and safety in OM and produced a map of knowledge that shows the evolution of articles/research.
2. Based on our review of supply chain PMMs, scholars could develop further frameworks that classify PMMs at different levels, e.g. strategic, tactical and operational (Gunasekaran et al., 2015).
3. Our review suggests that both financial and non-financial PMMs are important. Therefore, we would endorse researchers to study PMMs and their relationships and develop and test particular frameworks.

4. Our review of the literature suggests that there are very limited, if any, studies (that are highly cited) that use suitable mathematical and simulation models for modelling and analysis of supply chain PMMs. Therefore, we argue that more research should be conducted in developing and testing appropriate models that are inclusive and easy to use by both scholars and practitioners. These models may assist in the prioritisation of PMMs across levels and in their application in different types of organization (e.g. SMEs vs. MNCs).
5. There is lack of research on alternative lenses to the study of phenomena related with the application of supply chain PMMs. We would endorse scholars to use theories and lenses from other disciplines (Taylor and Taylor, 2009) to explain such phenomena.
6. There is lack of research on mixed methods when conducting studies on supply chain PMMs. More research is needed in using mixed methods when applying different supply chain PMMs and frameworks.
7. We would argue for more applied frameworks on PMMs that stem from the interaction of academia (and literature reviews) with practice, that is, by gaining the insights of practitioners through e.g. interviewing to understand how different the metrics they use are from the ones revealed by literature reviews.
8. More research is needed in identifying suitable organizational structures for applying PMMs, as well as appropriate champions and leaders who would facilitate these changes (Gunasekaran et al., 2015).

5. Managerial implications

We underline the importance for managers to attend to the diverse supply chain PMMs, which should be inclusive of financial and non-financial aspects, as well as tangibles and intangibles. These PMMs need to adapt to the multifarious business objectives, risks, stakeholder agendas and requirements, as well as costs entailed when measuring PMMs. Therefore, managers have to consider those factors in order to develop and test performance measurement systems based on PMMs and make informed decisions whether particular PMMs need to change or particular changes need to occur in the processes or structure that these PMMs represent. PMMs are dependent on the type of industry, client, the organizational goals and objectives, the nature of the market, and the technological competence of the organization (Gunasekaran and Kobu, 2007). Finally, robust data collection and analysis, infrastructure investments and human resources and competencies are needed to put appropriate PMMs and frameworks into practice. Frequent auditing is also needed to ensure the frameworks and PMMs are working appropriately or need to be updated/adjusted. To ensure this update and adjustment is conducted in a fair way, appropriate

stakeholders and senior executives should participate in determining the PMMs (Gunasekaran et al., 2015).

6. Conclusions and limitations

In this paper we have attempted to review the literature on supply chain PMMs from 1991-2014 using a bibliometric analysis. To our knowledge this is the first study attempting to classify highly cited and co-cited works within supply chain PMMs. Our findings can help researchers in (i) understanding the evolution of research trends in the field, and those articles that have been influential in shaping research in particular periods; and (ii) reveal the major research clusters in the field in each of these periods. It is vital for managers to attend to supply chain PMMs and adapt them based on the organizational context and stakeholder needs and views. A careful evaluation, however, of the relevant PMMs by managers is vital for the achievement of organizational objectives.

The paper has the following limitations:

1. The findings of the review are based on academic journals. The literature stemming from practitioner journals was excluded for accessibility limitations (Eksoz et al., 2014; Gunasekaran et al., 2015).
2. Our review covered the years 1991-2014, which is representative of the supply chain PMMs. The list is not exhaustive, but comprehensive, covering a significant list of scientific journals and highly-cited and co-cited articles.
3. Our method of conducting co-citation analysis is not the only method (Fahimnia et al., 2015). There are different methods to conduct co-citation analysis (Pilkington and Fitzgerald, 2006; Pilkington and Meredith, 2009; Colicchia and Strozzi, 2012; Fan et al., 2012). In this paper we follow Pilkington and Meredith (2009).
4. The findings were based on searches using particular keywords. This technique has been used in the past by scholars (e.g. Eksoz et al., 2014; Gunasekaran et al., 2015). All authors have interacted on the literature review and classifications (Chen et al., 2014). We controlled for quality focusing on peer-reviewed articles (Esposito and Evangelista, 2014).

Notwithstanding the aforementioned limitations we believe our study provides food for thought and encouragement for scholars to further explore supply chain PMMs.

5. Acknowledgements

The first author would like to acknowledge the financial assistance from Indian Institute of Technology Kanpur, India.

Appendix Table 2A: Articles in the first era (1991-1998)

Article	Topic	Research strategy	Research Method
Eccles (1991)	Underlines the need to shift from financial to a broader set of PMMs	Conceptual	N/A
Kaplan and Norton (1992)	Proposes Balanced Scorecard (BSC) to measure performance	Empirical (Case study)	Multi-source
Nagarur (1992)	Examines flexibility and reliability, and proposes producibility, as the extent to which a system fulfills its purpose. Furthermore it develops mathematical models to compute this measure.	Empirical	Survey and multi-source
Lebas (1995)	Performance needs to be constructed by both the management system and managers.	Review	N/A
Bittici (1995)	Presents the analysis, modelling and design of performance measurement systems.	Empirical (Case study)	Multi-source
Neely et al. (1995)	Reviews the literature on performance measurement and proposes a future research agenda.	Review	N/A
White (1996)	Reviews the literature on manufacturing performance measurement and lists 125 different strategy-related measures.	Review	N/A
Flapper et al. (1996)	Attends to the relationships between performance indicators for effective and consistent performance management systems.	Empirical	Multi-source
Rangone (1996)	Illustrates the potential of the analytical hierarchy process (AHP) for assessing and comparing the manufacturing performance of different departments, demonstrating the issues and challenges that may occur due to the potential application.	Empirical (Case study)	Multi-source
Benjaafar and Ramakrishnan (1996)	Introduces different representation and measurement schemes for sequencing flexibility and discusses the usefulness and limitations of each.	Conceptual	N/A

Ghalayini and Noble (1996)	Reviews and analyses the limitations of traditional approaches and current trends to performance measurement. Discusses characteristics of performance measurement necessary for world-class manufacturing performance.	Review	N/A
Chen and Chung (1996)	Investigates the relationship between flexibility and performance, reviews the literature on flexibility and proposes alternative measures for assessing machine and routeine flexibility. Furthermore, it provides to examples to illustrate the applicability of measures.	Empirical	Multi-source
Neely et al. (1996)	The paper surveys 850 companies from various industries to gather data on performance measurement and system design processes. Illustrates that performance measurement is achieved when companies have decided a priori what to measure and how to measure it; have collected data; and have eliminated any conflicts in their measurement systems.	Empirical	Survey
Ghalayini et al. (1997)	Presents an integrated dynamic performance measurement system (IDPMS), which is developed with a private company. It proposes that the integrated system can be achieved by linking processes in management, process improvement team, and factory shop floor.	Empirical (Case study)	Survey

Kim et al. (1997)	Critically evaluate current PMMS and propose a new performance measurement system using activity-based costing to consider financial and non-financial criteria simultaneously.	Empirical (Case study)	Multi-source
Neely et al. (1997)	Develops and tests a framework that can help in designing performance measures	Empirical (Case study)	Multi-source
Bititci et al. (1997)	Proposes the viable systems model (VSM) to assess the integrity of the performance measurement system. Develops a model to be used in order to design and audit performance measurement systems.	Conceptual	N/A
Azzone and Noci (1998)	Illustrates techniques and architecture for performance measurement systems that assist in the implementation of feasible "green" manufacturing strategies, and shows the application of these techniques.	Empirical (case study)	Multi-source
Ljungberg (1998)	Discusses how companies can obtain information on the magnitude and reason for machinery losses. This information is then provided to inform planning activities of machinery losses and provide base for planning activities in the total productive maintenance framework.	Empirical (case study)	Survey
Van Hoek (1998)	Proposes a preliminary framework to enable measuring un-measurable performance that allows supply chain competitiveness and directs management attention to those areas for supply chain optimization.	Conceptual	N/A

Table 2B: Articles in the second era (1999-2006)

Article	Topic	Research strategy	Research Method
Waggoner et al. (1999)	Illustrates those forces that shape the evolution and change of organisational performance measurement systems. These forces are then classified in 'internal' influences, 'external influeences', 'process issues' and 'translformaceion ' uses.	Review	N/A
Beamon (1999)	Assesses the performance measures used in supply chain models and presents a framework for the selection of PMMs for manufacturing supply chains.	Conceptual	N/A
Suwignjo et al. (2000)	Develops Quantitative Models for Performance Measurement Systems (QMPMS) using cognitive maps, cause and effect diagrams, tree diagrams, and the analytic hierarchy process.	Empirical (Case study)	Multi-sources
Bourne et al. (2000)	Proposes a framework for analyzing the implementation of a performance measurement system. It underlines the importance of aligning the performance measurement system with strategy.	Conceptual	N/A

Neely et al. (2000)	Illustrates the development and testing of a structured methodology for the design of performance measurement systems. Proposes a framework that helps organizations identify those characteristics that need to be part of the design framework.	Empirical (Case study)	Action research
Medori and Steeple (2000)	Illustrates the need to incorporate both financial and non-financial measures when designing PMMs. Proposes a framework that aids manufacturing organisations to select and implement PMMs.	Empirical (case study –ethnography)	Ethnographic methods
Bititci et al. (2000)	Makes the case for dynamic performance measurement systems and reviews the literature. Develops a model for integrated and dynamic performance measurement systems.	Empirical (case study)	Reports
Gunasekaran et al. (2001)	Reviews the literature on PMMs in SCM. It develops a framework for measuring the strategic, tactical and operational level performance in a supply chain. Finally, it presents a list of key performance metrics.	Review	Literature survey
Hudson et al. (2001)	Proposes measures of operational performance that enable the achievement of strategic objectives. It therefore helps develop effective performance measurement in SMEs.	Empirical (case study)	Action research
De Toni and Tonchia (2001)	Argues for the abandonment of the PMS models that based on keeping traditional cost performance separate from the non-cost measures; for integration with other firm systems; and for consideration of human resources.	Empirical	Survey

Bourne et al. (2002)	Discusses the success and failure of performance measurement system design interventions.	Empirical (case study)	Interviews
Kennerley and Neely (2002)	Argues for organizations to have in place systematic processes to manage the evolution of their performance measurement systems, and explores the forces that shape the evolution of measurement systems. It presents a framework that discusses those forces that shape the evolution of measurement systems	Empirical (multiple case study)	Interviews
Ittner and Lacker (2003)	Assesses the extent to which companies are using non-financial performance measurements.	Empirical (multiple case method)	Multi-sources
Chan and Qi (2003)	Proposes an innovative performance measure measurement system that contributes to the literature of Supply Chain Management. This allows tto build models that are holistic and measure the performance of the supply chain.	Empirical	Multi-sources
Gunasekaran et al (2004)	Proposes a framework that provides a better understanding of SM papers Performance measurement and metrics pertaining to SCM that have not received adequate attention from researchers or practitioners.	Review	N/A

Lockamy and McCormack (2004)	Explores the relationship between supply-chain management planning practices and supply chain performance. This is done based on the four decision areas by SCOR Model Version 4.0 (Plan, Source, Make, Deliver) and on interviews conducted with nine supply-chain management experts and practitioners on management planning practices.	Empirical	Survey (interview)
Hervani et al. (2005)	Aims to raise awareness with regards to the issues on green SCM and green SCM measurement. Context (inter-organizational, environement) plays an important role.	Review	Literature survey
Neely et al. (2005)	Argues for performance measurement system design, than the detail of specific measures. It includes a comprehensive review of the relevant literature, and proposes a research agenda.	Conceptual	N/A
Shepherd and Günter	Reviews the literature and provides a taxonomy of performance measures followed by a critical evaluation of measurements. Despite the considerable advancement in the literature, a number of problems have not been yet solved. It providse a taxonomy and implications for future research.	Conceptual	N/A

Table 2C: Articles in the third era (2007-2014)

Article	Topic	Research strategy	Research Method
Forslund and Jonsson (2007)	Discusses the impact of two PMMs, that is, forecast information access and forecast information quality of supply chain performance.	Empirical	Survey
Thakkar et al. (2007)	Proposes an integrated qualitative and quantitative approach to the development of a balanced scorecard (BSC) for measuring SC performance	Empirical (Case study)	Interviews
Ritchie and Brindley (2007)	Proposes a framework that considers both risk and performance in supply chains and provides a classification of risk drivers.	Empirical (Case studies)	Interviews and documentation
Gunasekaran and Kobu (2007)	Reviews the literature on PMMs and suggests that they should be reviewed in light of the new knowledge economy where activities are not easily identifiable. Discusses challenges related to the measuring of intangibles and nonfinancial performance measures in the knowledge economy.	Review	Literature survey
Aramyan et al. (2007)	Proposes and tests a conceptual framework for measuring performance in the agri-food supply chain.	Empirical (Case study)	Interviews
Moxham and Boaden (2007)	Identifies the applicability and impact of applying business performance measurement frameworks to voluntary organizations.	Empirical (Case study)	Interviews

Garengo and Bititci (2007)	Discusses the factors that shape performance measurement practices in SMEs.	Empirical (Case study)	Interviews
Lee et al. (2007)	Examines the relationship between supply chain linkages and supply chain performance, as measured by cost-containment and reliability of supply chain partners.	Empirical	Survey
Giannakis (2007)	Develops an analytical model to assess the performance of supplier relationships, based on the nature and the performance of each partner to the relationship.	Conceptual	N/A
Bhagwat and Sharma (2007)	Proposes analytical hierarchy process (AHP) methodology to help in reaching SCM evaluation decisions	Empirical	Survey
Wong and Wong (2008)	Discusses the challenges related to the past literature and the use of data envelopment analysis (DEA) modeling approach in supply chain benchmarking.	Review	Literature survey
Cousins et al. (2008)	Develops and tests a model that underlines the importance of socialization mechanisms as mediators in the relationship between supplier performance measures and performance outcomes.	Empirical	Survey
Muchiri and Pintelon (2008)	Suggests "overall equipment effectiveness (OEE)" as a performance-measurement tool that measures different types of production losses and indicates areas of process improvement; proposes a framework for classifying and measuring production losses for overall production effectiveness.	Review	Literature survey

Chae (2009)	Proposes particular key performance indicators (KPI) to measure supply chain performance based on industry by adopting SCOR's four meta-level processes, and offers a practical approach to developing PMMs.	Conceptual	N/A
Chia et al. (2009)	Examines how supply chain executives measure and perceive PMMs from a BSC perspective.	Empirical	Survey
Lin et al. (2009)	Examines the factors that influence the adoption of RFID and the impact of RFID on supply chain performance.	Empirical	Survey
Visich et al. (2009)	Investigates the benefits of RFID adoption on supply chain performance.	Empirical	Survey
Cocca and Alberti (2010)	Proposes a framework to be used by small and medium size enterprises (SMEs) to assess their performance measurement system (PMS).	Empirical	Survey
Muchiri et al. (2011)	Suggests that PMMs should result out of a careful analysis of the interaction of maintenance with organizational functions and in particular production; proposes a framework for choosing maintenance function PMMs.	Conceptual	N/A
Hassini et al. (2012)	Reviews the literature on sustainable supply chains (2000-2010), provides a framework for PMMs in sustainable supply chains, and illustrates how a company sets PMMs in this context.	Review	Literature survey

Table 3: Publication citation frequencies in each eras

Era 1 (1991-1998)		Era 2 (1999-2006)		Era 3 (2007-2014)	
Publication	**Maximum citation count**	**Publication**	**Maximum citation count**	**Publication**	**Maximum citation count**
Eccles, 1991	447	Waggoner et al., 1999	115	Forslund and Jonsson, 2007	41
Kaplan and Norton, 1992	3839	Beamon, 1999	713	Thakkar et al., 2007	72
Nagarur, 1992	48	Suwignjo et al., 2000	118	Ritchie and Brindley, 2007	106
Lebas, 1995	150	Bourne et al., 2000	326	Gunasekaran and Kobu, 2007	149
Bititci, 1995	55	Neely et al., 2000	251	Aramyan et al., 2007	59
Neely et al., 1995	662	Medori and Steeple, 2000	129	Moxham and Boaden, 2007	29
White, 1996	94	Bititci et al., 2000	146	Garengo and Bititci, 2007	33
Flapper et al., 1996	78	Gunasekaran et al., 2001	650	Lee et al., 2007	75
Rangone, 1996	97	Hudson et al., 2001	158	Giannakis, 2007	31
Benjaafar and Ramakrishnan, 1996	74	De Toni and Tonchia, 2001	145	Bhagwat and Sharma, 2007	32
Ghalayini and Noble, 1996	199	Bourne et al., 2002	128	Wong and Wong, 2008	57
Chen and Chung, 1996	52	Kennerley and Neely, 2002	145	Cousins et al., 2008	46
Neely et al., 1996	65	Kennerley and Neely, 2003	191	Muchiri and Pintelon, 2008	61
Ghalayini et al., 1997	142	Ittner and Larcker, 2003	257	Chae, 2009	42
Kim et al., 1997	101	Chan and Qi, 2003	148	Chia et al., 2009	37
Neely et al., 1997	189	Gunasekaran et al., 2004	582	Lin and Ho, 2009	47
Bititci et al., 1997	197	Lockamy III and McCormack, 2004	136	Visich et al., 2009	55
Azzone and Noci, 1998	73	Hervani et al., 2005	303	Cocca and Alberti, 2010	39
Ljungberg, 1998	107	Neely et al., 2005	219	Muchiri et al., 2011	46
Van Hoek, 1998	118	Shepherd and Günter, 2006	172	Hassini et al., 2012	74

Table 4: Most frequently co-cited articles (1991-2014)

Publication	Maximum co-cited value	Publication most co-cited with
Era 1 (1991-1998)		
Kaplan R, 1983	5	Kaplan R, 1992; Norton DP, 1992
Crawford K, 1990; Cox JF, 1990	5	Fry T, 1989; Cox JF, 1989
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Maskell B, 1991
Crawford K, 1990; Cox JF, 1990	4	Maskell B, 1989
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Neely A, 1995; Gregory M, 1995; Platts K, 1995
Fry T, 1989; Cox JF, 1989	4	Kaplan R, 1983
Fry T, 1989; Cox JF, 1989	4	Globerson S, 1985
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Johnson H, 1987; Kaplan RS, 1987
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Globerson S, 1985
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Kaplan R, 1992; Norton DP, 1992
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Maskell B, 1989
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	4	Fry T, 1989; Cox JF, 1989
Fry T, 1989; Cox JF, 1989	4	Kaplan R, 1992; Norton DP, 1992
Kaplan R, 1983	4	Wisner J, 1991; Fawcett SE, 1991
Kaplan R, 1983	4	Stalk G, 1988
Kaplan R, 1992; Norton DP, 1992	4	Maskell B, 1989
Maskell B, 1989	4	Wheelwright S, 1984
Kaplan R, 1992; Norton DP, 1992	4	Stalk G, 1988
Hayes R, 1988; Wheelwright SC, 1988; Clark KB, 1988	4	Kaplan R, 1992; Norton DP, 1992
Fry T, 1989; Cox JF, 1989	4	Wisner J, 1991; Fawcett SE, 1991
Fry T, 1989; Cox JF, 1989	4	Maskell B, 1989
Gerwin D, 1987	4	Slack N, 1987
Hayes R, 1988; Wheelwright SC, 1988; Clark KB, 1988	4	Johnson H, 1987; Kaplan RS, 1987
Globerson S, 1985	4	Kaplan R, 1992; Norton DP, 1992
Crawford K, 1990; Cox JF, 1990	4	Kaplan R, 1992; Norton DP, 1992
Crawford K, 1990; Cox JF, 1990	4	Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990
Crawford K, 1990; Cox JF, 1990	4	Globerson S, 1985
Era 2 (1999-2006)		
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	14	Kaplan R, 1992; Norton DP, 1992
Kaplan R, 1992; Norton DP, 1992	14	Lynch R, 1991; Cross KF, 1991
Kaplan R, 1992; Norton DP, 1992	14	Kaplan R, 1996; Norton DP, 1996
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	12	Johnson H, 1987; Kaplan RS, 1987
Kaplan R, 1992; Norton DP, 1992	12	Keegan D, 1989; Eiler RG, 1989; Jones CR, 1989
Bourne M, 2000; Mills J, 2000; Wilcox M, 2000; Neely A, 2000; Platts K, 2000	11	Kaplan R, 1992; Norton DP, 1992
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	10	Lynch R, 1991; Cross KF, 1991
Johnson H, 1987; Kaplan RS, 1987	10	Kaplan R, 1992; Norton DP, 1992
Fitzgerald L, 1991; Johnston R, 1991; Brignall TJ, 1991; Silvestro R, 1991; Voss C, 1991	9	Kaplan R, 1992; Norton DP, 1992
Kaplan R, 1992; Norton DP, 1992	9	Kaplan R, 1993; Norton DP, 1993
Kaplan R, 1992; Norton DP, 1992	9	Neely A, 1999
Ghalayini A, 1996; Noble JS, 1996	9	Kaplan R, 1992; Norton DP, 1992
Kaplan R, 1992; Norton DP, 1992	9	Neely A, 1995; Gregory M, 1995; Platts K, 1995
Johnson H, 1987; Kaplan RS, 1987	9	Lynch R, 1991; Cross KF, 1991
Dixon J, 1990; Nanni AJ, 1990; Vollmann TE, 1990	9	Kaplan R, 1996; Norton DP, 1996
Era 3 (2007-2014)		
Kaplan R, 1992; Norton DP, 1992	18	Kaplan R, 1996; Norton DP, 1996
Kaplan R, 1996; Norton DP, 1996	13	Kaplan R, 2001; Norton DP, 2001
Kaplan R, 1992; Norton DP, 1992	12	Kaplan R, 2001; Norton DP, 2001
Beamon B, 1999	11	Gunasekaran A, 2004; Patel C, 2004; McGaughey RE, 2004
Beamon B, 1999	11	Gunasekaran A, 2001; Patel C, 2001; Tirtiroglu E, 2001
Kaplan R, 1992; Norton DP, 1992	10	Neely A, 2002; Adams C, 2002; Kennerley M, 2002
Kaplan R, 1996; Norton DP, 1996	9	Lynch R, 1991; Cross KF, 1991
Beamon B, 1999	9	Neely A, 1995; Gregory M, 1995; Platts K, 1995
Beamon B, 1999	9	Chan F, 2003; Qi HJ, 2003
Bourne M, 2000; Mills J, 2000; Wilcox M, 2000; Neely A, 2000; Platts K, 2000	9	Neely A, 2002; Adams C, 2002; Kennerley M, 2002
Kaplan R, 1993; Norton DP, 1993	9	Kaplan R, 1996; Norton DP, 1996

References

Alfaro, J., Ortiz, A. and Poler, R. (2007), "Performance measurement system for business processes", *Production Planning and Control*, Vol. 18, No. 8, pp. 641-654.

Allesina, S., Azzi, A., Battini, D. and Regattieri, A. (2010), "Performance measurement in supply chains: New network analysis and entropic indexes", *International Journal of Production Research*, Vol. 48, No. 8, pp. 2297-2321.

Andersen, B. and Jordan, P. (1998), "Setting up a performance benchmarking network", *Production Planning and Control*, Vol. 9, No. 1, pp. 13-19.

Anderson, K. and McAdam, R. (2004), "A critique of benchmarking and performance measurement: Lead or lag?" *Benchmarking*, Vol. 11, No. 5, pp. 465-483.

Anvari, F. and Edwards, R. (2011), "Performance measurement based on a total quality approach", *International Journal of Productivity and Performance Management*, Vol. 60, No. 5, pp. 512-528.

Aramyan, L.H., Lansink, A.G.J.M.O., Van Der Vorst, J.G.A.J. and Kooten, O.V. (2007), "Performance measurement in agri-food supply chains: A case study", *Supply Chain Management*, Vol. 12, No. 4, pp. 304-315.

Azzone, G. and Rangone, A. (1996), "Measuring manufacturing competence: A fuzzy approach", *International Journal of Production Research*, Vol. 34, No. 9, pp. 2517-2532.

Azzone, G. and Noci, G. (1998), "Identifying effective PMSs for the deployment of "green" manufacturing strategies", *International Journal of Operations and Production Management*, Vol. 18, No. 4, pp. 308-335.

Baker, R.P. and Maropoulos, P.G. (1998), "Manufacturing capability measurement for cellular manufacturing systems", *International Journal of Production Research*, Vol. 39, No. 9, pp. 2511-2527.

Bai, C. and Sarkis, J. (2012), "Supply-chain performance-measurement system management using neighbourhood rough sets", *International Journal of Production Research*, Vol. 50, No. 9, pp. 2484-2500.

Barbosa, D.H. and Musetti, M.A. (2011), "The use of performance measurement system in logistics change process: Proposal of a guide", *International Journal of Productivity and Performance Management*, Vol. 60, No. 4, pp. 339-359.

Beamon, B.M. (1999), "Measuring supply chain performance", *International Journal of Operations and Production Management*, Vol. 19, No. 3, pp. 275-292.

Beatham, S., Anumba, C., Thorpe, T. and Hedges, I. (2004), "KPIs: A critical appraisal of their use in construction", *Benchmarking*, Vol. 11, No. 1, pp. 93-117.

Behery, M., Jabeen, F. and Parakandi, M. (2014), "Adopting a contemporary performance management system: A fast-growth small-to-medium enterprise (FGSME) in the UAE", *International Journal of Productivity and Performance Management*, Vol. 63, No. 1, pp. 22-43.

Benjaafar, S. and Ramakrishnan, R. (1996), "Modelling, measurement and evaluation of sequencing flexibility in manufacturing systems", *International Journal of Production Research*, Vol. 34, No. 5, pp. 1195-1230.

Berrah, L., Mauris, G. and Vernadat, F. (2004), "Information aggregation in industrial performance measurement: Rationales, issues and definitions", *International Journal of Production Research*, Vol. 42, No. 20, pp. 4271-4293.

Berrah, L., Mauris, G. and Vernadat, F. (2006), "Industrial performance measurement: An approach based on the aggregation of unipolar or bipolar expressions", *International Journal of Production Research*, Vol. 44, No. 18/19, pp. 4145-4158.

Bhagwat, R. and Sharma, M.K. (2007), "Performance measurement of supply chain management using the analytical hierarchy process", *Production Planning and Control*, Vol. 18, No. 8, pp. 666-680.

Bititci, U.S. (1995), "Modelling of performance measurement systems in manufacturing enterprises", *International Journal of Production Economics*, Vol. 42, No. 2, pp. 137-147.

Bititci, U.S., Carrie, A.S. and McDevitt, L. (1997), "Integrated performance measurement systems: A development guide", *International Journal of Operations and Production Management*, Vol. 17, No. 5, pp. 522-534.

Bititci, U.S., Turner, T. and Begemann, C. (2000), "Dynamics of performance measurement systems", *International Journal of Operations and Production Management*, Vol. 20, No. 6, pp. 692-704.

Bititci, U.S., Nudurupati, S.S., Turner, T.J. and Creighton, S. (2002), "Web enabled performance measurement systems: Management implications", *International Journal of Operations and Production Management*, Vol. 22, No. 11, pp. 1273-1287.

Bititci, U., Cavalieri, S. and Von Cieminski, G. (2005), "Implementation of performance measurement systems: Private and public sectors", *Production Planning and Control*, Vol. 16, No. 2, pp. 99-100.

Bititci, U.S., Mendibil, K., Nudurupati, S., Garengo, P. and Turner, T. (2006), "Dynamics of performance measurement and organisational culture", *International Journal of Operations and Production Management*, Vol. 26, No. 12, pp. 1325-1350.

Bititci, U., Garengo, P., Dorfler, V. and Nudurpati, S. (2008), "Performance measurement: questions for tomorrow", *SIOM Research Paper Series*, 005, 27 October, available at: www.strath.ac.uk/siom/research/researchpapers.

Björklund, M., Martinsen, U. and Abrahamsson, M. (2012), "Performance measurements in the greening of supply chains*", Supply Chain Management*, Vol. 17, No. 1, pp. 29-39.

Bond, T.C. (1999), "The role of performance measurement in continuous improvement", *International Journal of Operations and Production Management*, Vol. 19, No. 12, pp. 1318-1334.

Bourne, M., Mills, J., Wilcox, M., Neely, A. and Platts, K. (2000), "Designing, implementing and updating performance measurement systems", *International Journal of Operations and Production Management*, Vol. 20, No. 7, pp. 754-771.

Bourne, M., Neely, A., Platts, K. and Mills, J. (2002), "The success and failure of performance measurement initiatives: Perceptions of participating managers", *International Journal of Operations and Production Management*, Vol. 22, No. 11, pp. 1288-1310.

Bourne, M. (2005), "Researching performance measurement system implementation: The dynamics of success and failure", *Production Planning and Control*, Vol. 16, No. 2, pp. 101-113.

Braz, R.G.F., Scavarda, L.F. and Martins, R.A. (2011), "Reviewing and improving performance measurement systems: An action research", *International Journal of Production Economics*, Vol. 133, No. 2, pp. 751-760.

Breitbarth, T., Mitchell, R. and Lawson, R. (2010), "Service performance measurement in a New Zealand local government organization", *Business Horizons*, Vol. 53, No. 4, pp. 397-403.

Bukchin, J. (1998), "A comparative study of performance measures for throughput of a mixed model assembly line in a JIT environment", *International Journal of Production Research*, Vol. 36, No. 10, pp. 2669-2685.

Bullinger, H.-J., Kühner, M. and Van Hoof, A. (2002), "Analysing supply chain performance using a balanced measurement method", *International Journal of Production Research*, Vol. 40, No. 15, pp. 3533-3543.

Busby, J.S. and Williamson, A. (2000), "The appropriate use of performance measurement in non-production activity: The case of engineering design", *International Journal of Operations and Production Management*, Vol. 20, No. 3, pp. 336-358.

Cagnazzo, L., Taticchi, P. and Brun, A. (2010), "The role of performance measurement systems to support quality improvement initiatives at supply chain level", *International Journal of Productivity and Performance Management*, Vol. 59, No. 2, pp. 163-185.

Cai, J., Liu, X., Xiao, Z. and Liu, J. (2009), "Improving supply chain performance management: a systematic approach to analyzing iterative KPI accomplishment", *Decision Support Systems*, Vol. 46, No. 2, pp. 512-21.

Camarinha-Matos, L.M. and Abreu, A. (2007), "Performance indicators for collaborative networks based on collaboration benefits", *Production Planning and Control*, Vol. 18, No. 7, pp. 592-609.

Caridi, M., Crippa, L., Perego, A., Sianesi, A. and Tumino, A. (2010), "Measuring visibility to improve supply chain performance: A quantitative approach", *Benchmarking*, Vol. 17, No. 4, pp. 593-615.

Carmona, S. and Grönlund, A. (2003), "Measures vs actions: The balanced scorecard in Swedish Law Enforcement", *International Journal of Operations and Production Management*, Vol. 23, No. 11/12, pp. 1475-1496.

Cedergren, S., Wall, A. and Norström, C. (2010), "Evaluation of performance in a product development context", *Business Horizons*, Vol. 53, No. 4, pp. 359-369.

Chae, B. (2009), "Developing key performance indicators for supply chain: An industry perspective", *Supply Chain Management*, Vol. 14, No. 6, pp. 422-428.

Chan, F.T.S. (2003), "Performance Measurement in a Supply Chain", *International Journal of Advanced Manufacturing Technology,* Vol. 21, No. 7, pp. 534-548.

Chan, F.T.S. and Qi, H.J. (2003), "An innovative performance measurement method for supply chain management", *Supply Chain Management*, Vol. 8, No. 3, pp. 209-223.

Chen, I.J. and Chung, C.-H. (1996), "An examination of flexibility measurements and performance of flexible manufacturing systems", *International Journal of Production Research*, Vol. 34, No. 2, pp. 379-394.

Chen, C.-C., Yeh, T.-M. and Yang, C.-C. (2006), "Performance measurement for new product development: A model based on total costs", *International Journal of Production Research*, Vol. 44, No. 21, pp. 4631-4648.

Chen, K.S. and Huang, M.L. (2006), "Performance measurement for a manufacturing system based on quality, cost and time", *International Journal of Production Research*, Vol. 44, No. 11, pp. 101-123.

Chen, T.-Y., Chen, C.-B. and Peng, S.-Y. (2008), "Firm operation performance analysis using data envelopment analysis and balanced scorecard: A case study of a credit cooperative bank", *International Journal of Productivity and Performance Management*, Vol. 57, No. 7, pp. 523-539.

Chen, C., Ibekwe-SanJuan, F. and Hou, J. (2010), "The Structure and Dynamics of Co-Citation Clusters: A Multiple-Perspective Co-Citation Analysis", *Journal of the American Society for Information Science,* Vol. 61, No. 7, pp. 1386–1409.

Chen, P. and Redner, S. (2010), "Community structure of the physical review citation network", *Journal of Informetrics*., Vol. 4, No. 3, pp. 278–290.

Chen, L., Olhanger, J. and Tang, O. (2014), "Manufacturing facility location and sustainability: a literature review and research agenda", *International Journal of Production Economics*, Vol. 149, pp. 154–163.

Chew, E.P., Huang, H.C. and Horiana (2002), "Performance measures for returnable inventory: A case study", *Production Planning and Control*, Vol. 13, No. 5, pp. 462-469.

Chia, A., Goh, M. and Hum, S.-H. (2009), "Performance measurement in supply chain entities: Balanced scorecard perspective", *Benchmarking*, Vol. 16, No. 5, pp. 605-620.

Choong, K.K. (2014), "Has this large number of performance measurement publications contributed to its better understanding? A systematic review for research and applications", *International Journal of Production Research*, Vol. 52, No. 14, pp. 4174-4197.

Choong, K.K. (2014), "The Fundamentals of Performance measurement systems: A Systematic Approach to Theory and a Research Agenda", *International Journal of Productivity and Performance Management*, Vol. 63, No. 7, pp. 879-922.

Choy, K.L., Chow, H.K.H., Lee, W.B. and Chan, F.T.S. (2007), "Development of performance measurement system in managing supplier relationship for maintenance logistics providers", *Benchmarking*, Vol. 14, No. 3, pp. 352-368.

Cocca, P. and Alberti, M. (2010), "A framework to assess performance measurement systems in SMEs", *International Journal of Productivity and Performance Management*, Vol. 59, No. 2, pp. 186-200.

Colicchia, C. and Strozzi, F. (2012), "Supply chain risk management: a new methodology for a systematic literature review", *Supply Chain Management: an international journal*, Vol. 17, No. 1, pp. 403–418.

Cottrill, C., Rogers, E.M. and Mills, T. (1989), "Co-citation analysis of the scientific literature of innovation research traditions: diffusion of innovations and technology transfer", *Knowledge: Creation, Diffusion, Utilization,* Vol. 11, pp. 181–208.

Cousins, P.D., Lawson, B. and Squire, B. (2008), "Performance measurement in strategic buyer-supplier relationships: The mediating role of socialization mechanisms", *International Journal of Operations and Production Management*, Vol. 28, No. 3, pp. 238-258.

Culnan, M. (1986), "The intellectual development of management information systems", *Management Science*, Vol. 32, No. 2, pp. 156-172.

Danese, P. and Romano, P. (2012), "Relationship between downstream integration, performance measurement systems and supply network efficiency", *International Journal of Production Research,* Vol. 50, No. 7, pp. 2002-2013.

Daniels, R.C. and Burns, N.D. (1997), "Behavioural consequences of performance measures in cellular manufacturing", *International Journal of Operations and Production Management*, Vol. 17, No. 11, pp. 1066-1080.

Daniels, R.C. and Burns, N.D. (1997), "A framework for proactive performance measurement system introduction", *International Journal of Operations and Production Management*, Vol. 17, No. 1, pp. 100-116.

Davies, A.J. and Kochhar, A.K. (2002), "Manufacturing best practice and performance studies: A critique", *International Journal of Operations and Production Management*, Vol. 22, No. 3, pp. 289-305.

De Ron, A.J. (1995), "Measure of manufacturing performance in advanced manufacturing systems", *International Journal of Production Economics*, Vol. 41, No. 1/3, pp. 147-160.

De Toni, A., Nassimbeni, G. and Tonchia, S. (1995), "An instrument for quality performance measurement", *International Journal of Production Economics*, Vol. 38, No. 2/3, pp. 119-207.

De Toni, A. and Tonchia, S. (1996), "Lean organization, management by process and performance measurement", *International Journal of Operations and Production Management*, Vol. 16, No. 2, pp. 221-236.

De Toni, A. and Tonchia, S. (2001), "Performance measurement systems Models, characteristics and measures", *International Journal of Operations and Production Management*, Vol. 21, No. 1/2, pp. 46-70.

De Toni, A.F., Fornasier, A., Montagner, M. and Nonino, F. (2007), "A performance measurement system for facility management: The case study of a medical service authority", *International Journal of Productivity and Performance Management*, Vol. 56, No. 5/6, pp. 417-435.

Dev, N.K., Shankar, R. and Dey, P.K. (2014), "Reconfiguration of supply chain network: An ISM-based roadmap to performance", *Benchmarking*, Vol. 21, No. 3, pp. 386-411.

Díaz, M.S., Gil, M.J.A. and MacHuca, J.A.D. (2005), "Performance measurement systems, competitive priorities, and advanced manufacturing technology: Some evidence from the aeronautical sector", *International Journal of Operations and Production Management*, Vol. 25, No. 8, pp. 781-799.

Duffy, J.A.M., Fitzsimmons, J.A. and Jain, N. (2006), "Identifying and studying "best-performing" services: An application of DEA to long-term care", *Benchmarking*, Vol. 13, No. 3, pp. 232-251.

Eccles, R.G. (1991), "The performance measurement manifesto", *Harvard Business Review*, Vol. 69, No. 1, pp. 131-137.

Eksoz, C., Mansouri, A. and Bourlakis, M. (2014), "Collaborative forecasting in the food supply chain: a conceptual framework", *International Journal of Production Economics*, Vol. 158, pp. 120–135.

Elg, M., Broryd, K.P. and Kollberg, B. (2013), "Performance measurement to drive improvements in healthcare practice", *International Journal of Operations and Production Management*, Vol. 33, No. 11, pp. 1623-1651.

Esposito, E. and Evangelista, P. (2014), "Investigating virtual enterprise models: literature review and empirical findings", *International Journal of Production Economics*, Vol. 148, No. C, pp. 145-157.

Estampe, D., Lamouri, S., Paris, J.-L. and Brahim-Djelloul, S. (2013), "A framework for analysing supply chain performance evaluation models", *International Journal of Production Economics*, Vol. 142, No. 2, pp. 247-258.

Fahimnia, B., Sarkis, J., and Davarzani, H. (2015), "Green supply chain management: A review and bibliometric analysis", *International Journal of Production Economics*, Vol. 162, pp. 101-114.

Fan, D, Lo, C.K.Y., Ching, V. and Kan, C.W. (2004), "Occupational health and safety issues in operations management: A systematic and citation network analysis review", *International Journal of Production Economics*, Vol. 158, pp. 334-344.

Farris, J.A., van Aken, E.M., Letens, G., Chearksul, P. and Coleman, G. (2011), "Improving the performance review process: A structured approach and case application", *International Journal of Operations and Production Management*, Vol. 31, No. 4, pp. 376-404.

Fernandes, B.H.R., Mills, J.F. and Fleury, M.T.L. (2005), "Resources that drive performance: An empirical investigation", *International Journal of Productivity and Performance Management*, Vol. 54, No. 5/6, pp. 340-354.

Flapper, S.D.P., Fortuin, L. and Stoop, P.P.M. (1996), "Towards consistent performance management systems", *International Journal of Operations and Production Management*, Vol. 16, No. 7, pp. 27-37.

Fitzgerald, L., Johnson, R., Brignall, S., Silvestro R. and Voss, C. (1991), *Performance Measurement in Service Business*, CIMA, London.

Fogarty, D.W. (1992), "Work in process: performance measures", *International Journal of Production Economics*, Vol. 26, No. 1/3, pp. 169-172.

Folan, P. and Browne, J. (2005), "Development of an extended enterprise performance measurement system", *Production Planning and Control*, Vol. 16, No. 6, pp. 531-544.

Forslund, H. and Jonsson, P. (2007), "The impact of forecast information quality on supply chain performance", *International Journal of Operations and Production Management*, Vol. 27, No. 1, pp. 90-107.

Fynes, B., Voss, C. and Burca, D.S. (2005), "The impact of supply chain relationship quality on quality performance", *International Journal of Production Economics*, Vol. 96, No. 3, pp.339–354.

Ganguly, K. (2014), "Integration of analytic hierarchy process and Dempster-Shafer theory for supplier performance measurement considering risk", *International Journal of Productivity and Performance Management*, Vol. 63, No. 1, pp. 85-102.

Garcia, F.A., Marchetta, M.G., Camargo, M., Morel, L. and Forradellas, R.Q. (2012), "A framework for measuring logistics performance in the wine industry", *International Journal of Production Economics*, Vol. 135, No. 1, pp. 284-298.

Garengo, P. and Bititci, U. (2007), "Towards a contingency approach to performance measurement: An empirical study in Scottish SMEs", *International Journal of Operations and Production Management*, Vol. 27, No. 8, pp. 802-825.

Garengo, P. and Bernardi, G. (2007), "Organizational capability in SMEs: Performance measurement as a key system in supporting company development", *International Journal of Productivity and Performance Management*, Vol. 56, No. 5/6, pp. 518-532.

Garfield, E. (1972), "Citation Analysis as a Tool in Journal Evaluation", *Science*, Vol. 178, pp. 471-479.

Gelders, L., Mannaerts, P. and Maes, J. (1994), "Manufacturing strategy, performance indicators and improvement programmes", *International Journal of Production Research*, Vol. 32, No. 4, pp. 797-805.

Ghalayini, A.M. and Noble, J.S. (1996), "The changing basis of performance measurement", *International Journal of Operations and Production Management*, Vol. 16, No. 8, pp. 63-80.

Ghalayini, A.M., Noble, J.S. and Crowe, T.J. (1997), "An integrated dynamic performance measurement system for improving manufacturing competitiveness", *International Journal of Production Economics*, Vol. 48, No. 3, pp. 207-225.

Giannakis, M. (2007), "Performance measurement of supplier relationships", *Supply Chain Managemen*t, Vol. 12, No. 6, pp. 400-411.

Gomes, C.F., Yasin, M.M. and Lisboa, J.V. (2004), "An examination of manufacturing organizations' performance evaluation analysis, implications and a framework for future research", *International Journal of Operations and Production Management*, Vol. 24, No. 5/6, pp. 488-513.

Gomes, C.F., Yasin, M.M. and Lisboa, J.V. (2011), "Performance measurement practices in manufacturing firms revisited", *International Journal of Operations and Production Management*, Vol. 31, No. 1, pp. 5-30.

Gong, L. and Sun, B. (1995), "Efficiency measurement of production operations under uncertainty", *International Journal of Production Economics*, Vol. 39, No. 1/2, pp. 55-66.

Gopal, P.R.C. and Thakkar, J. (2012), "A review on supply chain performance measures and metrics: 2000-2011", *International Journal of Productivity and Performance Management*, Vol. 61, No. 5, pp. 518-547.

Gregory, M.J. (1993), "Integrated performance measurement: A review of current practice and emerging trends", *International Journal of Production Economics*, Vol. 30-31, No. C, pp. 281-296.

Greiling, D. (2010), "Balanced scorecard implementation in German non-profit organisations", *International Journal of Productivity and Performance Management*, Vol. 59, No. 6, pp. 534-554.

Greiling, D. (2005), "Performance measurement in the public sector: The German experience", *International Journal of Productivity and Performance Management*, Vol. 54, No. 7, pp. 551-567.

Greiling, D. (2006), "Performance measurement: A remedy for increasing the efficiency of public services?", *International Journal of Productivity and Performance Management*, Vol. 55, No. 6, pp. 448-465.

Gunasekaran, A., Patel, C. and Tirtiroglu, E. (2001), "Performance measures and metrics in a supply chain environment", *International Journal of Operations and Production Management*, Vol. 21, No. 1/2, pp. 71-87.

Gunasekaran, A., Patel, C. and McGaughey, R.E. (2004), "A framework for supply chain performance measurement", *International Journal of Production Economics*, Vol. 87, No. 3, pp. 333-347.

Gunasekaran, A., James Williams, H. and McGaughey, R.E. (2005), "Performance measurement and costing system in new enterprise", *Technovation*, Vol. 25, No. 5, pp. 523–533.

Gunasekaran, A. and Kobu, B. (2007), "Performance measures and metrics in logistics and supply chain management: A review of recent literature (1995-2004) for research and applications", *International Journal of Production Research*, Vol. 45, No. 12, pp. 2819-2840.

Gunasekaran, A., Irani, Z., Choy, K-L, Filippi, L. and Papadopoulos, T. (2015), "Performance measures and metrics in outsourcing decisions: a review for research and applications", *International Journal of Production Economics*, Vol. 161, pp. 153-166.

Gupta, M., Ko, H.-J. and Min, H. (2002), "TOC-based performance measures and five focusing steps in a job-shop manufacturing environment", *International Journal of Production Research*, Vol. 40, No. 4, pp. 907-930.

Gurd, B. and Gao, T. (2008), "Lives in the balance: An analysis of the balanced scorecard (BSC) in healthcare organizations", *International Journal of Productivity and Performance Management*, Vol. 57, No. 1, pp. 6-21.

Haapasalo, H., Ingalsuo, K. and Lenkkeri, T. (2006), "Linking strategy into operational management: A survey of BSC implementation in Finnish energy sector", *Benchmarking*, Vol. 13, No. 6, pp. 701-717.

Hanson, J.D., Melnyk, S.A. and Calantone, R.A. (2011), "Defining and measuring alignment in performance management", *International Journal of Operations and Production Management*, Vol. 31, No. 10, pp. 1089-1114.

Hassini, E., Surti, C. and Searcy, C. (2012), "A literature review and a case study of sustainable supply chains with a focus on metrics", *International Journal of Production Economics*, Vol. 140, No. 1, pp. 69-82.

Herremans, I.M., Ryans Jr., J.K. (1995), "The case for better measurement and reporting of marketing performance", *Business Horizons*, Vol. 38, No. 5, pp. 51-60.

Hervani, A.A., Helms, M.M. and Sarkis, J. (2005), "Performance measurement for green supply chain management", *Benchmarking*, Vol. 12, No. 4, pp. 330-353.

Ho, C.-T. and Wu, Y.-S. (2006), "Benchmarking performance indicators for banks", *Benchmarking*, Vol. 13, No. 1/2, pp. 147-159.

Ho, C.-J. (2007), "Measuring system performance of an ERP-based supply chain", *International Journal of Production Research*, Vol. 45, No. 6, pp. 1255-1277.

Hudson, M., Lean, J. and Smart, P.A. (2001), "Improving control through effective performance measurement in SMEs", *Production Planning and Control*, Vol. 12, No. 8, pp. 804-813.

Hudson, M., Smart, A. and Bourne, M. (2001), "Theory and practice in SME performance measurement systems", *International Journal of Operations and Production Management*, Vol. 21, No. 8, pp. 1096-1115.

Inman, R.R. and Gonsalvez, D.J.A. (1997), "Measuring and analysing supply chain schedule stability: A case study in the automotive industry", *Production Planning and Control*, Vol. 8, No. 2, pp. 194-204.

Ittner, C.D. and Larcker, D.F. (2003), "Coming up Short on Nonfinancial Performance Measurement", *Harvard Business Review*, Vol. 81, No. 11, pp. 88-95+139.

JääSkeläInen, A., Laihonen, H. and LöNnqvist, A. (2014), "Distinctive features of service performance measurement", *International Journal of Operations and Production Management*, Vol. 34, No. 12, pp. 1466-1486.

Johnson, T. and Kaplan, R.S. (1987), *The Relevance Lost: The Rise and Fall of Management Accounting*, Harvard Business School Press, Boston, M.A.

Jonsson, P. and Lesshammar, M. (1999), "Evaluation and improvement of manufacturing performance measurement systems - The role of OEE", *International Journal of Operations and Production Management*, Vol. 19, No. 1, pp. 55-78.

Joo, S.-J., Stoeberl, P.A. and Fitzer, K. (2009), "Measuring and benchmarking the performance of coffee stores for retail operations", *Benchmarking*, Vol. 16, No. 6, pp. 741-753.

Jothimani, D. and Sarmah, S.P. (2014), "Supply chain performance measurement for third party logistics", *Benchmarking*, Vol. 21, No. 6, pp. 944-963.

Jusoh, R., Ibrahim, D.N. and Zainuddin, Y. (2008), "The performance consequence of multiple performance measures usage: Evidence from the Malaysian manufacturers", *International Journal of Productivity and Performance Management*, Vol. 57, No. 2, pp. 119-136.

Kaplan, R. S. (1983), "Measuring manufacturing performance: a new challenge for managerial accounting research", *The Accounting Review*, LVIII, No. 4, pp. 686-705.

Kaplan, R.S. (1990), *Measures for Manufacturing Excellence*, Harvard Business School Press: Boston, MA.

Kaplan, R.S. and Norton, D.P. (1992), "The balanced scorecard--measures that drive performance", *Harvard Business Review*, Vol. 70, No. 1, pp. 71-79.

Kaplan, R.S. and Norton, D. (1997), *Translating Strategy Into Action, The Balanced Score Card*, Harvard Business School Press: Boston, MA.

Kaplan, R.S. and Norton, D.P. (2005), "The balanced scorecard: Measures That drive performance", *Harvard Business Review*, Vol. 83, No. 7/8, pp. 172-180+194.

Kayakutlu, G. and Buyukozkan, G. (2011), "Assessing performance factors for a 3PL in a value chain", *International Journal of Production Economics*, Vol. 131, No. 2, pp. 441-452.

Keebler, J.S. and Plank, R.E. (2009), "Logistics performance measurement in the supply chain: A benchmark", *Benchmarking*, Vol. 16, No. 6, pp. 785-798.

Keegan, D.P., Eiler R.G. and Jones C.R (1989), "Are your performance measures obsolete?" *Management Accounting*, pp. 45-50.

Kennerley, M. and Neely, A. (2002), "A framework of the factors affecting the evolution of performance measurement systems", *International Journal of Operations and Production Management*, Vol. 22, No. 11, pp. 1222-1245.

Kennerley, M. and Neely, A. (2003), "Measuring performance in a changing business environment", *International Journal of Operations and Production Management*, Vol. 23, No. 2, pp. 213-229.

Kim, G., Park, C.S. and Yoon, K.P. (1997), "Identifying investment opportunities for advanced manufacturing systems with comparative-integrated performance measurement", *International Journal of Production Economics*, Vol. 50, No. 1, pp. 23-33.

Knox Lovell, C.A. (1995), "Measuring the macroeconomic performance of the Taiwanese economy", *International Journal of Production Economics*, Vol. 39, No. 1/2, pp. 165-178.

Koh, S.C.L., Gunasekaran, A. and Saad, S.M. (2005), "A business model for uncertainty management", *Benchmarking*, Vol. 12, No. 4, pp. 383-400.

Kolay, M.K. and Sahu, K.C. (1995), "Performance measurement as a surrogate value of organizational human resource", *International Journal of Operations and Production Management*, Vol. 15, No. 5, pp. 40-59.

Kollberg, B. and Elg, M. (2011), "The practice of the Balanced Scorecard in health care services", *International Journal of Productivity and Performance Management*, Vol. 60, No. 5, pp. 427-455.

Kulatunga, U., Amaratunga, D. and Haigh, R. (2007), "Performance measurement in the construction research and development", *International Journal of Productivity and Performance Management*, Vol. 56, No. 8, pp. 673-688.

Kutucuoglu, K.Y., Hamali, J., Irani, Z. and Sharp, J.M. (2001), "A framework for managing maintenance using performance measurement systems", *International Journal of Operations and Production Management*, Vol. 21, No. 1/2, pp. 173-194.

Kuwaiti, M.E. and Kay, J.M. (2000), "The role of performance measurement in business process re-engineering", *International Journal of Operations and Production Management*, Vol. 20, No. 12, pp. 1411-1426.

Kuwaiti, M.E. (2004), "Performance measurement process: Definition and ownership", *International Journal of Operations and Production Management*, Vol. 24, No. 1/2, pp. 55-78.

Lai, I.K.W. (2010), "Benchmarking performance measures for extended enterprise in China", *Benchmarking*, Vol. 17, No. 5, pp. 692-704.

Länsiluoto, A. and Järvenpää, M. (2010), "Greening the balanced scorecard", *Business Horizons*, Vol. 53, No. 4, pp. 385-395.

Lazzarotti, V., Manzini, R. and Mari, L. (2011), "A model for R&D performance measurement", *International Journal of Production Economics*, Vol. 134, No. 1, pp. 212-223.

Leachman, C., Pegels, C.C. and Shin, S.K. (2005), "Manufacturing performance: Evaluation and determinants", *International Journal of Operations and Production Management*, Vol. 25, No. 9, pp. 851-874.

Lebas, M.J. (1995), "Performance measurement and performance management*", International Journal of Production Economics*, Vol. 41, No. 1/3, pp. 23-35.

Lee, C.W., Kwon, I.-W.G. and Severance, D. (2007), "Relationship between supply chain performance and degree of linkage among supplier, internal integration, and customer", *Supply Chain Management*, Vol. 12, No. 6, pp. 444-452.

Lehtinen, J. and Ahola, T. (2010), "Is performance measurement suitable for an extended enterprise?", *International Journal of Operations and Production Management*, Vol. 30, No. 2, pp. 181-204.

Leydesdorff, L., Vaughan, L. (2006), "Co-occurrence matrices and their applications in information science: extending ACA to the web environment", *Journal of the American Society for Information Science & Technology*, Vol. 57, No. 12, pp. 1616–1628.

Lin, C.-Y. and Ho, Y.-H. (2009), "RFID technology adoption and supply chain performance: An empirical study in China's logistics industry", *Supply Chain Management*, Vol. 14, No. 5, No. 369-378.

Liu, J., Love, P.E.D., Smith, J., Regan, M. and Sutrisna, M. (2014), "Public-Private Partnerships: A review of theory and practice of performance measurement", *International Journal of Productivity and Performance Management*, Vol. 63, No. 4, pp. 499-512.

Ljungberg, Õ. (1998), "Measurement of overall equipment effectiveness as a basis for TPM activities", *International Journal of Operations and Production Management*, Vol. 18, No. 5, pp. 495-507.

Lockamy III, A. (1998), "Quality-focused performance measurement systems: A normative model", *International Journal of Operations and Production Management*, Vol. 18, No. 8, pp. 740-766.

Lockamy III, A. and McCormack, K. (2004), "Linking SCOR planning practices to supply chain performance: An exploratory study", *International Journal of Operations and Production Management*, Vol. 24, No. 12, pp. 1192-1218.

Lockamy III, A. and Spencer, M.S. (1998), "Performance measurement in a theory of constraints environment", *International Journal of Production Research*, Vol. 36, No. 8, pp. 2045-2060.

Lynch, R.L. and Cross, K.F (1991), *Measure Up*, Blackwell, Cambridge, MA.

MacBryde, J., Paton, S., Grant, N. and Bayliss, M. (2012), "Performance measurement driving change: A case from the defence sector", *International Journal of Productivity and Performance Management,* Vol. 61, No. 5, pp. 462-482.

MacRoberts, M. H., and MacRoberts, B. R. (1989), "Problems of citation analysis: A critical review", *Journal of the American Society for Information Science*, Vol. 40, No. 5, pp. 342–349.

MacRoberts, M. H., and MacRoberts, B. R. (2010), "Problems of citation analysis: A study of uncited and seldom-sited influences*", Journal of the American Society for Information Science and Technology*, Vol. 61, No. 1, pp. 1-12.

Marri, H.B., Gunasekaran, A. and Grieve, R.J. (2000), "Performance measurements in the implementation of CIM in small and medium enterprises: An empirical analysis", *International Journal of Production Research*, Vol. 38, No. 17, pp. 4403-4411.

Martin, P.R. and Patterson, J.W. (2009), "On measuring company performance within a supply chain", *International Journal of Production Research*, Vol. 47, No. 9, pp. 2449-2460.

McAdam, R. and Bailie, B. (2002), "Business performance measures and alignment impact on strategy: The role of business improvement models", *International Journal of Operations and Production Management*, Vol. 22, No. 9/10, pp. 972-996.

McAdam, R., Hazlett, S.-A. and Galbraith, B. (2014), "The Role of Performance Measurement Models in Multi Level Alignment: An exploratory case analysis in the Utilities Sector", *International Journal of Operations and Production Management*, Vol. 34, No. 9, pp. 1153-1183.

McCormack, K., Ladeira, M.B., and Oliviera, M.P., (2008), "Supply chain maturity and performance in Brazil", *Supply Chain Management: an International Journal*, Vol. 13, No. 4, pp. 272–282.

Medori, D. and Steeple, D. (2000), "A framework for auditing and enhancing performance measurement systems", *International Journal of Operations and Production Management*, Vol. 20, No. 5, pp. 520-533.

Meekings, A. (2005), "Effective review meetings: The counter-intuitive key to successful performance measurement", *International Journal of Productivity and Performance Management*, Vol. 54, No. 3, pp. 212-220.

Mendibil, K. and MacBryde, J. (2005), "Designing effective team-based performance measurement systems: An integrated approach", *Production Planning and Control*, Vol. 16, No. 2, pp. 208-225.

Mendibil, K. and MacBryde, J. (2006), "Factors that affect the design and implementation of team-based performance measurement systems", *International Journal of Productivity and Performance Management*, Vol. 55, No. 2, pp. 118-142.

Mettänen, P. (2005), "Design and implementation of a performance measurement system for a research organization", *Production Planning and Control*, Vol. 16, No. 2, pp. 178-188.

Mhamdia, A.B.H.S. (2013), "Performance measurement practices in software ecosystem", *International Journal of Productivity and Performance Management*, Vol. 62, No. 5, pp. 514-533.

Micheli, P. and Kennerley, M. (2005), "Performance measurement frameworks in public and non-profit sectors", *Production Planning and Control*, Vol. 16, No. 2, pp. 125-134.

Micheli, P., Mura, M. and Agliati, M. (2011), "Exploring the roles of performance measurement systems in strategy implementation: The case of a highly diversified group of firms", *International Journal of Operations and Production Management*, Vol. 31, No. 10, pp. 1115-1139.

Moffett, S., Anderson-Gillespie, K. and McAdam, R. (2008), "Benchmarking and performance measurement: A statistical analysis", *Benchmarking*, Vol. 15, No. 4, pp. 368-381.

Monge, C.A.M., Rao, S.S., Gonzalez, M.E. and Sohal, A.S. (2006), "Performance measurement of AMT: A cross-regional study", *Benchmarking*, Vol. 13, No. 1/2, pp. 135-146.

Morgan C. (2004), "Structure, speed and salience: performance measurement in the supply chain", *Business Process Management Journal*, Vol. 10, No. 5, pp. 522–536.

Moxham, C. (2009), "Performance measurement: Examining the applicability of the existing body of knowledge to nonprofit organisations", *International Journal of Operations and Production Management*, Vol. 29, No. 7, pp. 740-763.

Moxham, C. (2014), "Understanding third sector performance measurement system design: A literature review", *International Journal of Productivity and Performance Management*, Vol. 63, No. 6, pp. 704-726.

Moxham, C. and Boaden, R. (2007), "The impact of performance measurement in the voluntary sector: Identification of contextual and processual factors", *International Journal of Operations and Production Management*, Vol. 27, No. 8, pp. 826-845.

Muchiri, P. and Pintelon, L. (2008), "Performance measurement using overall equipment effectiveness (OEE): Literature review and practical application discussion", *International Journal of Production Research*, Vol. 46, No. 13, pp. 3517-3535.

Muchiri, P., Pintelon, L., Gelders, L. and Martin, H. (2011), "Development of maintenance function performance measurement framework and indicators", *International Journal of Production Economics*, Vol. 131, No. 1, pp. 295-302.

Nagarur, Nagen (1992), "Some performance measures of flexible manufacturing systems", *International Journal of Production Research*, Vol. 30, No. 4, pp. 799-809.

Najmi, M. and Kehoe, D.F. (2001), "The role of performance measurement systems in promoting quality development beyond ISO 9000", *International Journal of Operations and Production Management*, Vol. 21, No. 1/2, pp. 159-172.

Neely, A.D. (1994), "Performance measurement system design – third phase", *Performance Measurement System Design Workbook*, April.

Neely, A., Gregory, M. and Platts, K. (1995), "Performance measurement system design: A literature review and research agenda", *International Journal of Operations and Production Management*, Vol. 15, No. 4, pp. 80-116.

Neely, A., Mills, J., Platts, K., Gregory, M. and Richards, H. (1996), "Performance measurement system design: Should process based approaches be adopted?", *International Journal of Production Economics*, Vol. 46/47, pp. 423-431.

Neely, A., Richards, H., Mills, J., Platts, K. and Bourne, M. (1997), "Designing performance measures: A structured approach", *International Journal of Operations and Production Management*, Vol. 17, No. 11, pp. 1131-1152.

Neely, A., Mills, J., Platts, K., Richards, H., Gregory, M., Bourne, M. and Kennerley, M. (2000), "Performance measurement system design: Developing and testing a process-based approach", *International Journal of Operations and Production Management*, Vol. 20, No. 10, pp. 1119-1145.

Neely, A., Adams, C. and Crowe, P. (2001), "The Performance Prism in Practice", *Measuring Business Excellence*, Vol. 5, No. 2, pp. 6 - 12.

Neely, A., Adams, C. and Kennerley, M. (2002), *The Performance Prism: The Scorecard for Measuring and Managing Business Success*, Prentice, London.

Neely, A., Gregory, M. and Platts, K. (2005), "Performance measurement system design: A literature review and research agenda", *International Journal of Operations and Production Management*, Vol. 25, No. 12, pp. 1228-1263.

Nerur, S.P., Rasheed, A.A. and Natarajan, V. (2008), "The intellectual structure of the strategic management field: an author co-citation analysis", *Strategic Management Journal*, Vol. 29, pp. 319–336.

New, C.C. and Szwejczewski, M. (1995), "Performance measurement and the focused factory: Empirical evidence", *International Journal of Operations and Production Management*, Vol. 15, No. 4, pp. 63-79.

Noori, H. and Gillden, D. (1995), "A performance measuring matrix for capturing the impact of AMT", *International Journal of Production Research*, Vol. 33, No. 7, pp. 2037-2048.

Nudurupati, S.S. and Bititci, U.S. (2005), "Implementation and impact of IT-supported performance measurement systems", *Production Planning and Control*, Vol. 16, No. 2, pp. 152-162.

O'Donnell, F.J. and Duffy, A.H.B. (2002), "Modelling design development performance", *International Journal of Operations and Production Management*, Vol. 22, No. 11, pp. 1198-1221.

Palmer, E. and Parker, D. (2001), "Understanding performance measurement systems using physical science uncertainty principles", *International Journal of Operations and Production Management*, Vol. 21, No. 7, pp. 981-999.

Parkan, C. and Wu, M.L. (1997), "On the equivalence of operational performance measurement and multiple attribute decision making", *International Journal of Production Research*, Vol. 35, No. 11, pp. 2963-2988.

Parkan, C. (2002), "Measuring the operational performance of a public transit company", *International Journal of Operations and Production Management*, Vol. 22, No. 5/6, pp. 693-720.

Parker, C. (2000), "Performance measurement", *Work Study*, Vol. 49, No. 2, pp. 63–66.

Perona, M. and Miragliotta, G. (2004), "Complexity management and supply chain performance assessment. A field study and a conceptual framework", *International Journal of Production Economics*, Vol. 90, No. 1, pp. 103-115.

Persson, O., Danell, R. and Schneider, J.W. (2009), "How to use Bibexcel for various types of bibliometric studies", In F. Åström, R. Danell, B. Larsen, and J. Wiborg Schneider (Eds.), Celebrating scholarly communication studies: A festschrift for Olle Persson at his 60th birthday (Vol. 5, pp. 9–24). Leuven, Belgium: International Society for Scientometrics and Informetics.

Pilkington, A. and Fitzgerald, R. (2006), "Operations management themes, concepts and relationships: a forward retrospective of the IJOPM", *International Journal of Operations and Production Management*, Vol. 11, pp. 1255–1275.

Pilkington, A and Liston-Heyes, C. (1999), "Is production and operations management a discipline? A citation/co- citation study", *International Journal of Operations and Production Management*, Vol. 19, No. 1, pp. 7-20.

Pilkington, A. and Meredith, J. (2009), "The evolution of the intellectual structure of operations management—1980–2006: a citation/co-citation analysis", *Journal of Operations Management*, Vol. 27, No. 3, pp. 185–202.

Power, D. (2005), "Determinants of business-to-business e-commerce implementation and performance: A structural model", *Supply Chain Management*, Vol. 10, No. 2, pp. 96-113.

Pradhan, S.K. and Routroy, S. (2014), "Analyzing the performance of supplier development: A case study", *International Journal of Productivity and Performance Management*, Vol. 63, No. 2, pp. 209-233.

Ramos-Rodriguez, A. R. and Ruiz-Navarro, J. (2004), "Changes in the intellectual structure of strategic management research: A bibliometric study of the Strategic Management Journal, 1980–2000", *Strategic Management Journal*, Vol. 25, No. 10, pp. 981–1004.

Rangone, A. (1996), "An analytical hierarchy process framework for comparing the overall performance of manufacturing departments", *International Journal of Operations and Production Management*, Vol. 16, No. 8, pp. 104-119.

Reefke, H. and Trocchi, M. (2013), "Balanced scorecard for sustainable supply chains: Design and development guidelines", *International Journal of Productivity and Performance Management*, Vol. 62, No. 8, pp. 805-826.

Reiner, G. and Hofmann, P. (2006), "Efficiency analysis of supply chain processes", *International Journal of Production Research*, Vol. 44, No. 23, pp. 5065-5087.

Ritchie, B. and Brindley, C. (2007), "Supply chain risk management and performance: A guiding framework for future development", *International Journal of Operations and Production Management*, Vol. 27, No. 3, pp. 303-322.

Rolstadås, A. (1998), "Enterprise performance measurement", *International Journal of Operations and Production Management*, Vol. 18, No. 9/10, pp. 989-999.

Rompho, N. and Boon-itt, S. (2012), "Measuring the success of a performance measurement system in Thai firms", *International Journal of Productivity and Performance Management*, Vol. 61, No. 5, pp. 548-562.

Saad, M. and Patel, B. (2006), "An investigation of supply chain performance measurement in the Indian automotive sector", *Benchmarking*, Vol. 13, No. 1/2, pp. 36-53.

Saccani, N., Songini, L. and Gaiardelli, P. (2006), "The role and performance measurement of after-sales in the durable consumer goods industries: An empirical study*", International Journal of Productivity and Performance Management*, Vol. 55, No. 3/4, pp. 259-283.

Sandström, J. and Toivanen, J. (2002), "The problem of managing product development engineers: Can the balanced scorecard be an answer?", *International Journal of Production Economics*, Vol. 78, No. 1, pp. 79-90.

Santos, S.P., Belton, V. and Howick, S. (2002), "Adding value to performance measurement by using system dynamics and multicriteria analysis", *International Journal of Operations and Production Management*, Vol. 22, No. 11, pp. 1246-1272.

Sarkis, J. (2003), "Quantitative models for performance measurement systems - Alternate considerations", *International Journal of Production Economics*, Vol. 86, No. 1, pp. 81-90.

Sarrico, C.S. and Rosa, M.J. (2009), "Measuring and comparing the performance of Portuguese secondary schools: A confrontation between metric and practice benchmarking", *International Journal of Productivity and Performance Management*, Vol. 58, No. 8, pp. 767-786.

Schmitz, J. and Platts, K.W. (2004), "Supplier logistics performance measurement: Indications from a study in the automotive industry", *International Journal of Production Economics*, Vol. 89, No. 2, pp. 231-243.

Sellitto, M.A., Pereira, G.M., Borchardt, M., Da Silva, R.I. and Viegas, C.V. (2014), "A SCOR-based model for supply chain performance measurement: Application in the footwear industry", *International Journal of Production Research*, Vol. 53, No. 16, pp. 4917-4926.

Seth, N., Deshmukh, S.G. and Vrat, P. (2006), "A framework for measurement of quality of service in supply chains", *Supply Chain Management*, Vol. 11, No. 1, pp. 82-94.

Sezen, B. (2006), "Changes in performance under various lengths of review periods in a periodic review inventory control system with lost sales: A simulation study", *International Journal of Physical Distribution and Logistics Management*, Vol. 36, No. 5, pp. 360-373.

Sharplin, A. and Mabry, R. (1985), "The relative importance of journals used in management research: an alternative ranking", *Human Relations*, Vol. 38, No. 2, pp. 139-149.

Shepherd, C. and Günter, H. (2006), "Measuring supply chain performance: Current research and future directions", *International Journal of Productivity and Performance Management*, Vol. 55, No. 3/4, pp. 242-258.

Shi, M. and Yu, W. (2013), "Supply chain management and financial performance: Literature review and future directions", *International Journal of Operations and Production Management*, Vol. 33, No. 10, pp. 1283-1317.

Silvestro, R. (2014), "Performance topology mapping: Understanding the drivers of performance", *International Journal of Production Economics*, Vol. 156, pp. 269-282.

Slater, S.F., Olson, E.M. and Reddy, V.K. (1997), "Strategy-based performance measurement", *Business Horizons*, Vol. 40, No. 4, pp. 37-44.

Small, Henry (1973), "Co-citation in the scientific literature: A new measure of the relationship between two documents", *Journal of the American Society for Information Science*, Vol. 24, pp. 265–269.

Smoot, P.J., Ittner, C. and Larcker, D. (2004), "Coming Up Short on Nonfinancial Performance Measurement [2] (multiple letters)", *Harvard Business Review*, Vol. 82, No. 2, pp. 116-117.

Soderberg, M., Kalagnanam, S., Sheehan, N.T. and Vaidyanathan, G. (2011), "When is a balanced scorecard a balanced scorecard?", *International Journal of Productivity and Performance Management*, Vol. 60, No. 7, pp. 688-708.

Sousa, G.W.L., Carpinetti, L.C.R., Groesbeck, R.L. and Van Aken, E. (2005), "Conceptual design of performance measurement and management systems using a structured engineering approach", *International Journal of Productivity and Performance Management*, Vol. 54, No. 5/6, pp. 385-399.

Stainer, A. (1997), "Logistics - A productivity and performance perspective", *Supply Chain Managemen*t, Vol. 2, No. 2, pp. 53-62.

Stevanovic, V., Feek, C. and Kay, R. (2005), "Using routine data for benchmarking and performance measurement of public hospitals in New Zealand", *Benchmarking*, Vol. 12, No. 6, pp. 498-507.

Suwignjo, P., Bititci, U.S. and Carrie, A.S. (2000), "Quantitative Models for Performance Measurement System", *International Journal of Production Economics*, Vol. 64, No. 1, pp. 231-241.

Tapinos, E., Dyson, R.G. and Meadows, M. (2005), "The impact of the performance measurement systems in setting the 'direction' in the University of Warwick", *Production Planning and Control*, Vol. 16, No. 2, pp. 189-198.

Tapinos, E., Dyson, R.G. and Meadows, M. (2005), "The impact of performance measurement in strategic planning", *International Journal of Productivity and Performance Management*, Vol. 54, No. 5/6, pp. 370-384.

Taticchi, P., Tonelli, F., and Cagnazzo, L. (2010), "Performance measurement and management: a literature review and a research agenda", *Measuring Business Excellence*, Vol. 14, No. 1, pp. 4-18.

Taticchi, P., Tonelli, F. and Pasqualino, R. (2013), "Performance measurement of sustainable supply chains: A literature review and a research agenda", *International Journal of Productivity and Performance Managemen*t, Vol. 62, No. 8, pp. 782-804.

Taylor, A. and Taylor, M. (2014), "Factors influencing effective implementation of performance measurement systems in small and medium-sized enterprises and large firms: A perspective from Contingency Theory", *International Journal of Production Research*, Vol. 52, No. 3, pp. 847-866.

Taylor, A. and Taylor, M. (2013), "Antecedents of effective performance measurement system implementation: An empirical study of UK manufacturing firms", *International Journal of Production Research*, Vol. 51, No. 18, pp. 5485-5498.

Taylor, A. and Taylor, M. (2009), "Operations management research: contemporary themes, trends and potential future directions", *International Journal of Operations and Production Management,* Vol. 29, No. 12, pp. 1316-1340.

Thakkar, J., Deshmukh, S.G., Gupta, A.D. and Shankar, R. (2007), "Development of a balanced scorecard: An integrated approach of Interpretive Structural Modeling (ISM) and Analytic Network Process (ANP)", *International Journal of Productivity and Performance Management*, Vol. 56, No. 1, pp. 25-59.

Thakkar, J., Kanda, A. and Deshmukh, S.G. (2009), "Supply chain performance measurement framework for small and medium scale enterprises", *Benchmarking*, Vol. 16, No. 5, pp. 702-723.

The Global Logistics Research Team at Michigan State University (1995), *World Class Logistics,* Council of Logistics Management, Oak Brook.

Tracey, M., Lim, J.-S. and Vonderembse, M.A. (2005), "The impact of supply-chain management capabilities on business performance", *Supply Chain Management*, Vol. 10, No. 3, pp. 179-191.

Tucker, M. and Pitt, M. (2009), "Customer performance measurement in facilities management: A strategic approach", *International Journal of Productivity and Performance Management*, Vol. 58, No. 5, pp. 407-422.

Tung, A., Baird, K. and Schoch, H.P. (2011), "Factors influencing the effectiveness of performance measurement systems", *International Journal of Operations and Production Management*, Vol. 31, No. 12, pp. 1287-1310.

Unahabhokha, C., Platts, K. and Tan, K. H. (2007), "Predictive performance measurement system: A fuzzy expert system approach", *Benchmarking*, Vol. 14, No. 1, pp. 77-91.

Upadhaya, B., Munir, R. and Blount, Y. (2014), "Association between performance measurement systems and organisational effectiveness", *International Journal of Operations and Production Management*, Vol. 34, No. 7, pp. 853-875.

Upton, D. (1998), "Just-in-time and performance measurement systems", *International Journal of Operations and Production Management*, Vol. 18, No. 11, pp. 1101-1110.

Valmohammadi, C. and Servati, A. (2011), "Performance measurement system implementation using Balanced Scorecard and statistical methods", *International Journal of Productivity and Performance Management*, Vol. 60, No. 5, pp. 493-511.

Van Aken, E.M., Letens, G., Coleman, G.D., Farris, J. and Van Goubergen, D. (2005), "Assessing maturity and effectiveness of enterprise performance measurement systems", *International Journal of Productivity and Performance Management*, Vol. 54, No. 5/6, pp.400-418.

Van Hoek, R.I. (1998), ""Measuring the immeasurable" - Measuring and improving performance in the supply chain", *Supply Chain Management*, Vol. 3, No. 4, pp. 187-192.

Van Hoek, R.I. (2001), "The contribution of performance measurement to the expansion of third party logistics alliances in the supply chain", *International Journal of Operations and Production Management*, Vol. 21, No. 1/2, pp. 15-29.

Visich, J.K., Li, S., Khumawala, B.M. and Reyes, P.M. (2009), "Empirical evidence of RFID impacts on supply chain performance*", International Journal of Operations and Production Management*, Vol. 29, No. 12, pp. 1290-1315.

Vokurka, R. J. (1996), "The relative importance of journals used in Operations Management Research: A citation analysis", *Journal of Operations Management*, Vol. 14, No. 4, pp. 345–355.

Waggoner, D.B., Neely, A.D. and Kennerley, M.P. (1999), "Forces that shape organisational performance measurement systems: an interdisciplinary review", *International Journal of Production Economics*, Vol. 60, pp. 53-60.

Wahlers, J.L. and Cox III, J.F. (1994), "Competitive factors and performance measurement: Applying the theory of constraints to meet customer needs", *International Journal of Production Economics*, Vol. 37, No. 2/3, pp. 229-240.

Wei-Shong, L.P. and Kuo-Chung, M.A. (2006), "The internal performance measures of bank lending: A value-added approach", *Benchmarking*, Vol. 13, No. 3, pp. 272- 289.

White, G.P. (1996), "A survey and taxonomy of strategy-related performance measures for manufacturing", *International Journal of Operations and Production Management*, Vol. 16, No. 3, pp. 42-61.

White, D.S., Gunasekaran, A. and Roy, M.H. (2014), "Performance measures and metrics for the creative economy", *Benchmarking*, Vol. 21, No. 1, pp. 46-61.

Wickramatillake, C.D., Koh, S.C.L., Gunasekaran, A. and Arunachalam, S. (2007), "Measuring performance within the supply chain of a large scale project", *Supply Chain Management*, Vol. 12, No. 1, pp. 52-59.

Wong, W.P. and Wong, K.Y. (2008), "A review on benchmarking of supply chain performance measures", *Benchmarking*, Vol. 15, No. 1, pp. 25-51.

Wouters, M. and Sportel, M. (2005), "The role of existing measures in developing and implementing performance measurement systems", *International Journal of Operations and Production Management*, Vol. 25, No. 11, pp. 1062-1082.

Wouters, M. (2009), "A developmental approach to performance measures – results from a longitudinal case study", *European Management Journal*, Vol. 27, No. 1, pp. 64–78.

Yang, C.-C., Lin, W.-T., Pai, F.-Y. and Yeh, T.-M. (2007), "The use of fuzzy measures in a performance-evaluation model for ERP implementation among Taiwanese semiconductor manufacturers", *International Journal of Production Research*, Vol. 45, No. 20, pp. 4735-4752.

Yilmaz, Y. and Bititci, U. (2006), "Performance measurement in the value chain: Manufacturing v. tourism", *International Journal of Productivity and Performance Management*, Vol. 55, No. 5, pp. 371-389.

Yurdakul, M. (2003), "Measuring long-term performance of a manufacturing firm using the Analytic Network Process (ANP) approach", *International Journal of Production Research*, Vol. 41, No. 11, pp. 2501-2529.

Yurdakul, M. and Iç, Y.T. (2005), "Development of a performance measurement model for manufacturing companies using the AHP and TOPSIS approaches*", International Journal of Production Research*, Vol. 43, No. 21, pp. 4609-4641.

Zeydan, M., Çolpan, C. (2009), "A new decision support system for performance measurement using combined fuzzy TOPSIS/DEA approach", *International Journal of Production Research*, Vol. 47, No. 15, pp. 4327-4349.

Zhang, X., van Donk, D.P. and van der Vaart, T. (2011), "Does ICT influence supply chain management and performance?: A review of survey-based research", *International Journal of Operations and Production Management*, Vol. 31, No. 11, pp. 1215-1247.

Zigan, K., Macfarlane, F. and Desombre, T. (2008), "Intangible resources as performance drivers in European hospitals", *International Journal of Productivity and Performance Management*, Vol. 57, No. 1, pp. 57-71.