www.revistageintec.net
ISSN: 2237-0722
revista GEINTEC Gestão, Inovação e Tecnologias

A BIBLIOMETRIC ANALYSIS REGARDING THE HUMANITARIAN OPERATIONS AND CRITICAL SITUATIONS

UMA ANÁLISE BIBLIOMÉTRICA SOBRE OPERAÇÕES HUMANITÁRIAS E SITUAÇÕES CRÍTICAS

Priscila Bresolin Tisott[1]; Vilmar Antonio Gonçalves Tondolo[2]; André Andrade Longaray[3]; Maria Emilia Camargo[4]; Rosana da Rosa Portella Tondolo[5]

[1]Programa de Pós-Graduação em Administração - PPGA
Universidade de Caxias do Sul – UCS – Caxias do Sul/RS – Brasil
priscila.tisott@gmail.com
[2]Programa de Pós-Graduação em Administração - PPGA
Universidade Federal do Rio Grande – FURG – Rio Grande/RS – Brasil
vtondolo@gmail.com
[3] Programa de Pós-Graduação em Administração - PPGA
Universidade Federal do Rio Grande – FURG – Rio Grande/RS – Brasil
longaray@bol.com.br
[4]Programa de Pós-Graduação em Administração - PPGA
Universidade de Caxias do Sul – UCS – Caxias do Sul/RS – Brasil
mariaemiliappga@gmail.com
[5]Programa de Pós-Graduação em Desenvolvimento Territorial e Sistemas Agroindustriais - PPGDTSA
Universidade Federal de Pelotas – UFPEL – Pelotas/RS – Brasil
rosanatondolo@gmail.com

Abstract

The interest regarding the humanitarian operations has been increasing in recent years, mainly due to the increasing number of disasters occurred. However, there are only few studies investigating this issue from the perspective of Operations Management. Thus, this research aimed to explore the humanitarian studies related to operations, identifying the journals and authors with the highest number of publications and the main keywords used in the field of Business, Management and Accounting. Therefore, it was used a bibliometric study in the Scopus database. Among the main results, it was found that most of the studies on the subject is from developed countries, involving 57 journals and 160 researchers from 19 countries. Regarding the most used keywords, it was possible to realize the growing importance of logistics and planning for relief operations. In addition, it was possible to identify the lack of studies considering the motivation for volunteering.

Key-words: humanitarian operations, critical situations, bibliometric.

1. Introduction

Humanitarian operations or humanitarian logistics operations constitute a wide range of catastrophic situations in which victims need different types of assistance. Natural disasters such as hurricanes, earthquakes, floods, avalanches, fires, volcanic eruptions, tsunamis, etc., are examples of the types of disasters that occur worldwide. There are also situations created by man, such as terrorist acts, genocide, wars and conflicts, without forgetting the extreme poverty and hunger and pandemics and epidemics (KOVÁCS; SPENS, 2007; SMALLMAN, 1997; VAN WASSENHOVE, 2006). Such situations require the establishment of processes and systems involving the mobilization of people, resources, skills and knowledge in order to assist disaster victims (VAN WASSENHOVE, 2006).

The interest about the humanitarian operations has been increasing in recent years, mainly due to the increasing number of disasters occurred. The Tsunami in the Indian Ocean in 2004, for example, brought the need for planning for the center of the debate in order to ensure rapid and effective assistance to major disasters (KOVÁCS; SPENS, 2007). Still, according to Thomas and Kopczak (2005), the humanitarian operations will continue to increase, as both natural disasters and those caused by man tend to grow five times over the next 50 years due to environmental degradation, urbanization and spread of the AIDS virus in the world.

According to Kovács and Spens (2007), the research field of humanitarian operations, especially with regard to logistics, is relatively new, since there are no journals dedicated to the topic and existing publications become, this way, scattered. Many organizations still continue to underestimate the importance of logistics in humanitarian operations and focus only on fundraising activities, preventing adequate preparation for those who will work during and after disasters. According to Altay and Green III (2006) there is a lack of measures and analytical techniques for the prevention of disasters or even planning resources that can assist in saving lives, since most of the studies relating to disasters is focused in the results of these, the sociological impacts of communities, psychological effects of survivors and others. Therefore, should be encouraged to research this issue from the perspective of Operations Research and Operations Management.

Thus, this article aimed to explore the studies on the humanitarian operations, identifying the journals and authors with the highest number of publications and the main keywords used in the field of Business, Management and Accounting. Therefore, it was used a research in Scopus Database, with data collected in January 2016 and through the suggested terms in article of Kovács e Spens (2011).

In addition to this introductory section, the article presents the theoretical framework about humanitarian operations and bibliometrics. After that, it is described the methodological procedures, followed by the presentation and analysis of results and conclusions.

2. Literature Review

Humanitarian operations or humanistic and humanitarian logistics operations include different types of operations at different times, as are configured as a response action to various disasters. However, despite the wide range of operations involved, all have the common goal of helping people in their survival, although the forms of aid are differentiated by each form of catastrophe involved (KOVÁCS; SPENS, 2007).

A survey dated 1997, from the Reuters Business Briefing database (RBB), found that between the years 1992 and 1995 there was an increase of 73% in the event of humanitarian disasters. In the same period, disasters with high numbers of people affected increased by 50% and it has been proven that most disasters occurred between the Tropics of Cancer and Capricorn, an area where are located many underdeveloped countries (SMALLMAN, 1997). Ten years later, it is clear that as a result of the Asian tsunami in 2004, the humanitarian operations received increasing interest from both academia and the professionals (KOVÁCS; SPENS, 2007). Moreover, according to Thomas and Kopczak (2005), the forecast for the next 50 years is that the number of natural and man-made disasters will increase about five times, which will further encourage interest on the subject.

The Tsunami in the Indian Ocean in 2004 can be considered as a focal point in the context of humanitarian operations, due to a deficient management of a disaster with such proportion (KOVÁCS; SPENS, 2011). Since then, the academy and aid agencies have endeavored to understand the humanitarian operations and prepare the global population for its occurrence. In addition to this, the Haiti earthquake in 2010 - which was the largest earthquake of the last two centuries - confirmed the importance of an efficient logistics planning for the delivery of water, food and medicine to the victims. At the time, a third of the Haitian capital's population was seriously affected and the destruction of roads, ports, hospitals and schools were presented as an additional challenge to an already chaotic situation (ALTAY; GREEN III, 2006).

The basic task of the humanitarian logistics comprises the acquisition and delivery of the required supplies and services in the places and times at which they are needed, ensuring better value for money. In the event of any disaster, these sources include items that are vital to human survival, such as food, water, temporary shelter and medicine, among others (INTERNATIONAL FEDERATION OF RED CROSS AND RED CRESCENT SOCIETIES, 2016). For Barbarosoglu, Ozdamar and Cevik (2002) is up to the agents of humanitarian operation design the transport of first aid supplies, food, equipment, and personnel responsible for rescue and supply points to destinations geographically spread in disaster areas, evacuation and transfer of people affected.

With regard to the types of operation involved, there is the understanding that the disasters occurred are not natural order only, such as hurricanes and floods, but also episodes related to political crises, wars, complex emergencies, pandemics and epidemics, as for example, the genocide in Rwanda between 1994 and 1995. To Kovács and Spens (2007) the issues related to hunger are also a form of catastrophe as far as sudden disasters (earthquakes, avalanches, hurricanes, floods, fires, volcanic eruptions, etc.) and acts of terrorism or nuclear accidents, which are manmade disasters.

3. Methodological Procedures

The method applied in this study has a quantitative approach and applied nature, exploratory and descriptive regarding the objectives and, concerning to the procedures it can be considered a literature review. According to Collis and Hussey (2005), the quantitative research method is related to the collection and analysis of numerical data, in order to apply statistical tests.

With respect to exploratory and descriptive purposes, according to Malhotra (2011), exploratory research is aimed at achieving ideas and information about a problem, namely, to exploit the situation of a problem when there are few previous information about this. Furthermore, this kind of research is conducted on a small sample and therefore must be considered as a starting point for further research. Concerning to the descriptive research, it intends to describe the characteristics of a given phenomenon. It is used to identify and obtain information about the characteristics of a given problem.

In relation to the search procedure, it is understood that the line between documentary research and literature research is tenuous and, for some authors, there are more similarities than differences between them. According to Oliveira (2007), both documental research and the literature research uses documents for data collection. However, the literature is concerned with the study and analysis of scientific domain documents such as books, journals, scientific papers, among others; while in the documentary research can be used documents such as letters, photos and other.

Taking into consideration that this study it is a bibliometric research, the literature search procedure was considered. Furthermore, in regard to Bibliometric Law, for purposes of this study, we used the model distribution and frequency of words in a text of Zipf, also known as Zipf's Law.

As the unit of analysis it was chosen the Scopus database, which, according to Elsevier (2016) is the largest reference source of technical and scientific literature reviewed by peers. The terms defined for the search, according to the study from Kovács and Spens (2011) were "humanitarian", "aid", "crisis", "emergency", "disaster", "logistics", "supply chain" and "operations" seeking from the title, abstract and keywords (Article title, abstract, keywords). Therefore, the

search terms were organized as follows: "humanitarian" or "aid" and "crisis" or "emergency" or "disaster" and "logistics" or "supply chain" or "operations".

In order to refine the search and identify only the items related to Operations Management area, the research was limited to the area of Social Sciences and Humanities (Social Sciences & Humanities), and later to the area of Business, Management and Accounting. Still, there were only selected articles published in periodicals (Article). The search identified 144 articles published from 1994 to 2016.

When added to the search the words "motivation", "volunteer" and "volunteering", organized as follows: "humanitarian" or "aid" and "crisis" or "emergency" or "disaster" and "logistics" or "supply chain" or "operations" and "motivation" and "volunteer" or "volunteering", the search returned only one result. Still, it was conducted two other researches in the scope of the 144 articles resulting from the initial search. The word search for "motivation" in the initial results generated 5 results. Already the search for the term "motivation for volunteering" generated 1 result.

The titles, abstracts and keywords of the 144 items considered were analyzed to identify the overall frequency of each word, as well as other aspects defined by the authors. Data collection was conducted from the 1st to the 15th, January 2016. The analyzes were performed from the 15th to the 25th, January 2016.

4. Results and Discussion

This research, searching from titles, abstracts and keywords generated 144 results, which were organized by number of citations and analyzed as follows. Table 1 shows the number of citations per paper, and the most cited article, with 236 citations is the article written by Luk Van Wassenhove, published in 2006 and entitled "Blackett memorial lecture humanitarian aid logistics: Supply chain management in high gear". This article deals with the need for collaboration between the agencies that provides humanitarian aid, companies and universities, so that we can establish a pattern of differential response due to the logistical complexities of humanitarian operations. The articles that follow in the number of citations, published in 2007 and 2008 respectively, also address the logistical challenges in humanitarian operations. Considering the cutoff point of 20 articles, the the least cited article, published in 2013, has 27 citations.

The article entitled "Modeling the emergency cardiac in-patient flow: An application of queuing theory", published in 2007 in the journal Health Care Management Science, had 37 citations. However, after reading the abstract of the article it was found that this was not part of the research scope and therefore it was deleted.

Table 1 – Number of Citations per Article

Article Title	Authors	Journal	Year	Citations
Blackett memorial lecture humanitarian aid logistics: Supply chain management in high gear	Van Wassenhove L.N.	*Journal of the Operational Research Society*	2006	236
Humanitarian logistics in disaster relief operations	Kovács, G., Spens, K.M.	*International Journal of Physical Distribution and Logistics Management*	2007	210
Facility location in humanitarian relief	Balcik, B., Beamon, B.M.	*International Journal of Logistics Research and Applications*	2008	170
Coordination in humanitarian relief chains: Practices, challenges and opportunities	Balcik, B., Beamon, B.M., Krejci, C.C., Muramatsu, K.M., Ramirez, M.	*International Journal of Production Economics*	2010	95
Humanitarian aid: An agile supply chain?	Oloruntoba, R., Gray, R.	*Supply Chain Management*	2006	95
Identifying challenges in humanitarian logistics	Kovács, G., Spens, K.	*Source of the Document International Journal of Physical Distribution and Logistics Management*	2009	67
Stochastic optimization for natural disaster asset prepositioning	Salmerón, J., Apte, A.	*Production and Operations Management*	2010	55
Pre-positioning of emergency items for CARE international	Duran, S., Gutierrez, M.A., Keskinocak, P.	*Interfaces*	2011	46
A logistics model for emergency supply of critical items in the aftermath of a disaster	Lin, Y.-H., Batta, R., Rogerson, P.A., Blatt, A., Flanigan, M.	*Socio-Economic Planning Sciences*	2011	42
Preparing communities for disasters: Issues and processes for government readiness	McEntire, D.A., Myers, A.	*Disaster Prevention and Management*	2004	40
On the unique features of post-disaster humanitarian logistics	Holguín-Veras, J., Jaller, M., Van Wassenhove, L.N., Pérez, N., Wachtendorf, T.	*Journal of Operations Management*	2012	36
Global service supply chains: An empirical study of current practices and challenges of a cruise line corporation	Véronneau, S., Roy, J.	*Tourism Management*	2009	36
Interstate partnerships in emergency management: Emergency management assistance compact in response to catastrophic disasters	Kapucu, N., Augustin, M.-E., Garayev, V.	*Public Administration Review*	2009	35
The DH Accident and Emergency Department model: A national generic model used locally	Fletcher, A., Halsall, D., Huxham, S., Worthington, D.	*Journal of the Operational Research Society*	2007	32
Disaster Relief, Inc.	Thomas, A., Fritz, L.	*Harvard Business Review*	2006	32
Customer service in emergency relief chains	Oloruntoba, R., Gray, R.	*International Journal of Physical Distribution and Logistics Management*	2009	31
Disaster relief routing: Integrating research and practice	De la Torre, L.E., Dolinskaya, I.S., Smilowitz, K.R.	*Socio-Economic Planning Sciences*	2012	29
The application of "swift trust" to humanitarian logistics	Tatham, P., Kovács, G.	*International Journal of Production Economics*	2010	28
Emergency fund-raising for disaster relief	Bennett, R., Kottasz, R.	*Disaster Prevention and Management*	1998	28
On the appropriate objective function for post-disaster humanitarian logistics models	Holguín-Veras, J., Pérez, N., Jaller, M., Van Wassenhove, L.N., Aros-Vera, F.	*Journal of Operations Management*	2013	27

Source: data from the research (2016).

Table 2 shows the number of publications per journal, and identified 13 publications in the 'International Journal of Production Economics', 11 publications in the journal 'Disaster Prevention and Management' and 10 publications for each in the periodic 'International Journal of Physical

Distribution and Logistics Management' and 'Socio-Economic Planning Sciences'. The cutoff point chosen by the authors was 10 journals.

Table 2 – Number of Citations per Journal

Journal	**Number of Publications**
International Journal of Production Economics	13
Disaster Prevention and Management	11
International Journal of Physical Distribution and Logistics Management	10
Socio-Economic Planning Sciences	10
Production and Operations Management	8
Journal of the Operational Research Society	6
Transportation Research Part E: Logistics and Transportation Review	6
International Journal of Risk Assessment and Management	5
Management Research News	5
Supply Chain Management	4

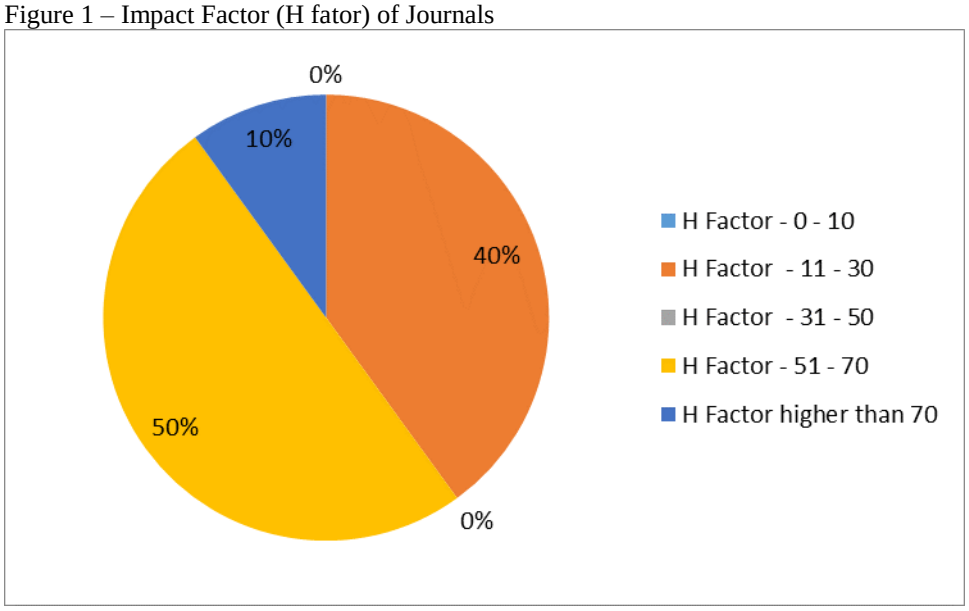
Source: data from the research (2016).

Figure 1 shows the impact factor of the journals (H factor), according to the Scimago (2016). The impact factor identifies the journals that have higher amount of significant material related to their topics of interest, establishing thus the qualification of the journal (ARAÚJO, 2006). In Brazil, the classification of journals is through the extracts A1, A2, B1, B2, B3, B4, B5 and C, and periodic A1 have the highest qualification while periodic C is the less qualified.

According to the Triennial Evaluation of CAPES (2013), the journals that present H factor bigger than 20 are considered equivalent to A1 extract. Thus, it is possible to understand that from the journals considered in this analysis, 90% are compatible with the most qualified journals in the national scene, while only 10% of the journals would be classified in A2 or B1 extracts, according to its H factor.

From this analysis, it is possible to understand that, despite the number of citations be considered low, if related to other topics and other relevant areas within the administration, the qualification of journals is high. Thus, it is possible to understand that the articles have spread among a scientifically qualified public and has conditions to replicate or carry out further studies on the subject.

Figure 1 – Impact Factor (H fator) of Journals



Source: data from the research (2016).

Table 3 shows the number of publications by country, taking into account the country's lead author. From this table it's possible to see that Ireland, Italy and Sweden have the highest number of publications related to the themes of this research, with 5 publications each. These countries are followed by Japan with four publications and Iran and Peru with 3 publications each. Brazil already has two publications related to the subject, one of them related to the disaster occurred in Rio de Janeiro in 2011 and the other relating to natural disasters in the state of Santa Catarina. The cutoff point defined by the authors was 10 countries.

Table 3 – Number of Publications per Country

Country	Number of Publications
Ireland	5
Italy	5
Sweden	5
Japan	4
Iran	3
Peru	3
Brazil	2
Malaysia	2
South Korea	2
Taiwan	2

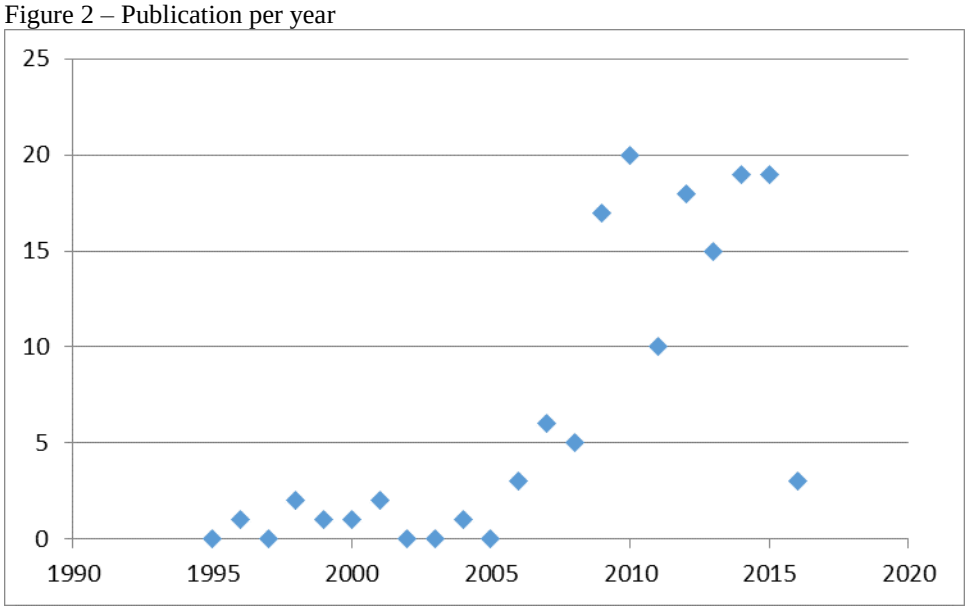
Source: data from the research (2016).

The number of publications per year, as shown in Figure 2 shows that there was 20 and 19 publications related to the subject, in 2010 and 2015, respectively. Thus, most of the publications is located in the period between 2010 and 2015. In the year 2016 there are 3 publications related to the

subject, however, it is noteworthy that the data collection ended in January 2016, this way only one month of the year has been considered.

Regarding the article published in 1994, after reading its abstract, it was identified that the study is not part of the scope of this research. Thus, the first record of the resulting theme of this research dates back to 1996 and it has only one citation.

Figure 2 – Publication per year



Source: data from the research (2016).

The number of publications by author shows that the Finnish author Gyöngyi Kovács is the author who has the highest number of publications on the subject, with 10 publications, followed by Luk Van Wassenhove with 5 publications. It was considered only the authors who had at least 3 publications related to the topic.

Table 5 – Number of Publications per Author

Authors	**Number of Publications**
Kovacs, G.	10
Van Wassenhove, L.N.	5
Oloruntoba, R.	4
Tatham, P.	4
Balcik, B.	3
Lodree, E.J.	3

Source: data from the research (2016).

Table 6 shows the impact factor (H factor) of the authors who have at least 3 citations mentioned in this study. Data were taken from the Scopus database, which brings the H factor of each of the authors, based on the number of citations of their documents.

Table 6 – H factors of the authors

Authors	Number of Publications	H Factor
Kovacs, G.	10	10
Van Wassenhove, L.N.	5	46
Oloruntoba, R.	4	7
Tatham, P.	4	6
Balcik, B.	3	6
Lodree, E.J.	3	11

Source: data from the research (2016).

Regarding to the number of publications by education institution, the Hanken - Svenska Handelshögskolan located in Finland has 9 publications, followed by the University of Arkansas - Fayetteville with 5 publications and INSEAD Europe, also with 5 publications such as shown in Table 7. The institution considered in this stage of the research is the first author affiliation institution and the cutoff point was 10 educational institutions.

Table 7 – Number of Publications per Education Institution

Education Institution	Number of Publications
Hanken - Svenska handelshogskolan	9
University of Arkansas - Fayetteville	5
INSEAD Europe	5
Cranfield University	4
Rensselaer Polytechnic Institute	4
University at Buffalo State University of New York	4
Naval Postgraduate School	4
Northwestern University	3
Vrije Universiteit Amsterdam	3
University of Newcastle, Australia	3

Source: data from the research (2016).

Among the key-words considered by the authors of each article, Table 8 shows that which appear more often. The term 'humanitarian logistics' was cited 40 times. Next, the words 'disasters' with 30 citations and 'supply chain management', with 26 citations were cited. The cutoff point used was 15 keywords.

Table 8 – Key-words used more often

Keyword	Number of Citations
Humanitarian logistics	40
Disasters	30
Supply chain management	26
Logistics	23
Disaster management	20
Disaster relief	18
Disaster prevention	17
Supply chains	16
Aid agencies	15
Humanitarian aid	12
Disaster response	9
Natural disasters	8
Stochastic programming	7
Disaster preparedness	6
Humanitarian relief	6

Source: data from the research (2016).

The search for the term "*motivation*" within the results of initial research returned 5 documents, which can be seen in Table 9.

Table 9 – Results with the addition of the term "*motivation"*

Article	Authors	Year	Journal	Citations
Global service supply chains: An empirical study of current practices and challenges of a cruise line corporation	Véronneau, S., Roy, J.	2009	*Tourism Management*	36
Humanitarian supply chain management: A critical review	John, L., Ramesh, A., Sridharan, R.	2012	*International Journal of Services and Operations Management*	2
A path to a public-private partnership: Commercial logistics concepts applied to disaster response	David Swanson, R., Smith, R.J.	2013	*Journal of Business Logistics*	1
Humanitarian relief logistics: An exploratory study for need and importance of performance measurement system	Dangi, H., Bardhan, A.K., Narag, A.S.	2012	*International Journal of Logistics Systems and Management*	1
Using Contests to Provide Business Students Project-Based Learning in Humanitarian Logistics: PSAid Example	Özpolat, K., Chen, Y., Hales, D., Yu, D., Yalcin, M.G.	2014	*Decision Sciences Journal of Innovative Education*	0

Source: data from the research (2016).

The search for the term "motivation for volunteering" from the initial results returned only 1 document, which is listed in Table 10.

Table 10 – Result with addition of the term "*motivation for volunteering"*

Article	Authors	Year	Journal	Citations
Humanitarian supply chain management: A critical review	John, L., Ramesh, A., Sridharan, R.	2012	*International Journal of Services and Operations Management*	2

Source: data from the research (2016).

3. Final Considerations

This research aimed to explore the studies on the humanitarian operations, identifying the journals and authors with the highest number of publications as well as the main keywords used in the field of Business, Management and Accounting. Therefore, it was used a research conducted in the Scopus database, which identified 144 articles related to the search terms from the title, abstract and keywords.

From reading the abstracts of articles considered, it was possible to identify the involvement of 57 journals and 160 researchers from 19 countries researching issues related to humanitarian operations. In addition, it was noted that although the first publication date of 1996, most of the studies was carried out between the years 2010 and 2015, which confirms the growing importance of issues related to humanitarian operations (SMALLMAN, 1997; ALTAY; GREEN III, 2006; KOVÁCS; SPENS, 2007, 2011).

Among the journals that have a higher number of publications related to the subject, it can be mentioned the 'International Journal of Production Economics', 'Disaster Prevention and Management', 'International Journal of Physical Distribution and Logistics Management' and 'Socio-Economic Planning Sciences'. These journals are all European publications, being three periodic from the UK and one from the Netherlands, with an impact factor (H factor) between 27 and 100, which allows to classify them as relevant publications in their areas of interest.

In addition, the identification of the authors of the articles, as well as their countries and the location of the institutions with the highest number of publications, added to the location of the journals, allows a suggestion of an idea of the places with greater focus on developing theory about the humanitarian operations. In addition to Finland, the UK and the Netherlands, other countries that stand out are the United States of America and Japan, known to be affected by disasters both natural and manmade.

Nevertheless, there is the understanding that in underdeveloped countries disasters occurred have a greater number of people affected as well as difficulties of access due to limited conditions of the countries concerned (SMALLMAN, 1997). Thus arises the importance of returning the

academic look at the difficulties faced by countries with lower purchasing power in order to understand their weaknesses and act to resolve them.

Regarding to the identification of keywords more considered in the articles, it was possible to understand the importance of logistics, preparation and response to the disaster and also the mathematical models in helping the forms of action, corroborating the findings of other authors who dealt with the importance of an appropriate logistical planning in these situations (ALTAY; GREEN III, 2006; KOVÁCS; SPENS, 2007). However, questions concerning to the motivation for volunteering and for volunteering themselves were not considered in the articles analyzed, thus causing a research gap to be investigated.

The limitations of this study lies in the fact that the research considered only one database, which did not allow the identification of all articles related to the field. Moreover, despite numerous nomenclatures used in the area, we opted for the identification of articles from the suggestion of a previous work (KOVÁCS; SPENS, 2011). Moreover, it was only considered articles published in journals, disregarding those published in events related to the theme. Regarding the theories that supported these studies, it was not possible to identify them only by reading their abstracts.

The research contributions arise from the identification of research gaps regarding the researched area, as work related to volunteering and motivation for volunteering in humanitarian operations as well as the approach to disasters in developing countries. It is suggested, therefore, the realization of new studies developed in other databases with the addition of new terms related to the subject in this research. It is indicated also to conduct a systematic review of the literature, from the articles considered in this research, which will allow the identification of theories that can support new studies. Finally, it is proposed conducting a survey that relates volunteering and the motivation for it in humanitarian operations.

References

ALTAY, N.; GREEN III, W. G. OR/MS research in disaster operations management. European Journal of Operational Research, v. 175, n. December 2004, p. 475–493, 2006.

ARAÚJO, C. A. Bibliometria: evolução histórica e questões atuais de palavras num texto. Em Questão, v. 12, n. 1, p. 11-32, 2006.

BARBAROSOGLU, G.; OZDAMAR, L.; CEVIK, A. An interactive approach for hierarchical analysis of helicopter, European Journal of Operational Research, v. 140, n. 1, p. 118-133, 2002.

BRASÍLIA. COORDENAÇÃO DE APERFEIÇOAMENTO DE PESSOAL DE NÍVEL SUPERIOR - CAPES. Documento de Área 2013. Brasília: Capes, 2013.

COLLIS, J.; HUSSEY, R. Pesquisa em administração: um guia para alunos de graduação e pós-graduação. 2. ed. Porto Alegre: Bookman, 2005. 349p.

ELSEVIER. Scopus. Disponível em: <http://www.scopus.com/>. Acesso em: 04 jan. 2016.

INTERNATIONAL FEDERATION OF RED CROSS AND RED CRESCENT SOCIETIES. World Disaster Report 2015: Focus on local actors, the key to humanitarian effectiveness. Lyon: Imprimerie Chirat, 2015.

KOVÁCS, G.; SPENS, K. M. Humanitarian logistics in disaster relief operations. International Journal of Physical Distribution & Logistics Management, v. 37, n. 2, p. 99–114, 2007.

_____. Trends and developments in humanitarian logistics – a gap analysis. International Journal of Physical Distribution & Logistics Management, v. 41, n. 1, p. 32 – 45, 2011.

MALHOTRA, N. K. Pesquisa de marketing: foco na decisão. 3.ed. São Paulo: Pearson, 2011. xx, 491 p

OLIVEIRA, M. M. Como fazer pesquisa qualitativa. Petrópolis, Vozes, 2007.

SCIMAGO JOURNAL & COUNTRY RANK. Journal Search. Disponível em: <http://www.scimagojr.com/journalsearch.php>. Acesso em: 10 ago. 2015.

SMALLMAN, C. Read all about it – risk trends in the media : a research note. Disaster Prevention and Management: An International Journal, v. 6, n. 3, p. 160–164, 1997.

THOMAS, Anisya S.; KOPCZAK, Laura Rock. From logistics to supply chain management: The path forward in the humanitarian sector. San Francisco: Fritz Institute, 2005.

VAN WASSENHOVE, L. Blackett Memorial Lecture Humanitarian aid logistics : supply chain management in high gear. Journal of the Operational Research Society, v. 57, p. 475–489, 2006.

Recebido: 19/06/2017

Aprovado: 13/10/2017