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**Abstract code: 015-0092**

## **Exploring boundaries between music and management: musical themes and visions in operations management**

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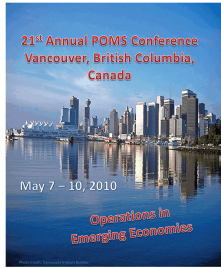
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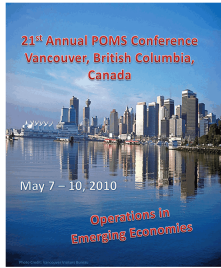
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POMS 21st Annual Conference

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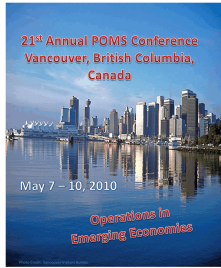
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## **Exploring boundaries between music and management: musical themes and visions in operations management**

### **Abstract**

The aim is to present some possible approaches of the interface between music and operations management. Firstly, some theoretical questions regarding the relations between or among areas of knowledge (interdisciplinarity, transdisciplinarity, multidisciplinary etc.) are discussed. Soon after, some historical examples about music and its influence on many other sciences and on philosophy are presented. Finally, the paper focuses on the inter-relation between music and OM, pointing out some examples of this theoretical interaction in themes such as management of musical groups and institutions, cultural and creative industries and goods, and ergonomics in the work of musical performers. The research was conducted by a bibliographic review in conference proceedings, Ph.D. and Ms.C. thesis, journals, books and other scientific sources in the areas of music and operations management.

**Key words:** general management theory; management and music; interdisciplinarity; culture, arts and OM.



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## 1. Introduction

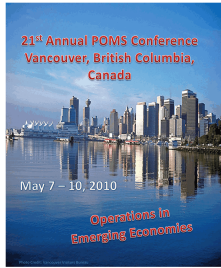
This paper focuses on the interface *music-operations management (OM)*, and discusses it as an emergent case of interdisciplinarity. The article also points examples of recent researches that develop themes pertaining to this relation between fields of knowledge.

The paper firstly discusses the concepts of inter-, pluri-, multi-, intra-, transdisciplinarity, and multi-referentiality. Secondly, it highlights the interdisciplinarity in music and in OM (understood as an intersection between business administration and industrial engineering). Finally, it provides an overview on Brazilian and international literature, of researches that somehow focus on music and management.

## 2. Relations between or among areas of knowledge

From Plato (428/7-347 BC) to Descartes (1596-1650 AD), scientific knowledge is based on the idea that it is possible to understand reality by dividing it into many independent fields; there would be one science for each specific object of study (Plato, 1973; Descartes, 1999).

However, nowadays, the vast specialization of the various fields of knowledge has led the individual to fragmented visions of reality, with tight expertise, not producing effective actions in everyday social life. From this angle, the semantic linkages that exist between the theoretical concepts are not evident, and individuals goes



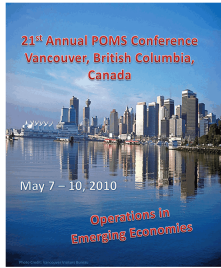
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to practice with fragmented knowledge, which can solve a particular problem and, at the same time, create new ones.

Kuhn (1981) notes that normal science is very efficient in solving specific problems, but its areas of research represent a very small spectrum of the overall reality. In this sense, the analytical approach restricts the scientist to a vision that makes it difficult to understand the broader world (Kuhn, 1981). "You can be an expert at solving puzzles. This does not make you more capable in the art of thinking" (Alves, 1982, p. 11).

The idea that, from the union of several pieces of specific knowledge it would be possible to reach a global knowledge about reality has been challenged by the systems theory (Churchman, 1972; Bertalanffy, 1977, Crema, 1989; Capra, 1993; 1995). This epistemological approach advocates that the total number of shares does not form the whole, and that this can only be understood in a comprehensive manner, from the general understanding of dynamic phenomena that are interrelated and, through these relations, constitute an integrated system.

The phenomenon of the relationship between or among different fields of knowledge (involving not only science but also philosophy and other types of knowledge) has received several classifications, such as multidisciplinary, transdisciplinarity, pluridisciplinarity, interdisciplinarity and, sometimes, multi-referentiality. Generally speaking, all these names express the same basic idea: that there are concepts and objects of study common to many fields of human knowledge,



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that concepts and theoretical frameworks of an area can help us to resolve issues pertaining to another area and vice versa. Not only are the relations between or among sciences considered, but also between science(s), philosophy, “Eastern philosophies”, religion and other extra-scientific knowledge. These forms of knowledge outside science, it should be noted, have philosophically sought scientific legitimacy and its “truths” they claim to be “scientific truth” (Gadamer, 1977).

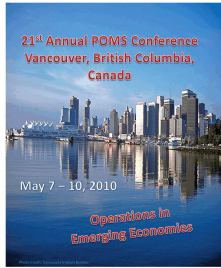
Several authors try to distinguish among the different classifications of the inter-relationship between or among areas of human knowledge. The following table illustrates some of the discussions about different concepts.

Concept	Description
<b>Interdisciplinarity</b>	Interdisciplinarity, as a movement, was created in Europe, mainly in France and Italy, during the 60s, while many students’ manifestations were occurring. It was a counterpoint to the academic organization which despised every day and contemporary knowledge , cultivated high specialization and only allowed visions in a “unique, restricted and limited direction” (Fazenda, 2006, p. 19).
	Interdisciplinarity “presupposes a different attitude towards the problem of knowledge, that is, it is the replacement of a fragmentary with a unitary conception of human being” (Fazenda, 2002, p. 8)
	Interdisciplinarity is, on the one hand, described as a nostalgic sense of a lost wholeness of the world; on the other hand, as a new stage of sciences evolution. (Klein, 1990)
	Interdisciplinarity “is best seen as bringing together distinctive components of two or more disciplines”; disciplines are “any comparatively self-contained and isolated domain of human experience which possesses its own community of experts.” (Nissani, 1997, p. 203)
	The exchange of information among fields of knowledge is essential but not sufficient for interdisciplinarity, which is only effective when the communication between areas of knowledge leads to significant changes in these areas themselves and in their interaction. Interdisciplinarity is an effective integration of disciplines in the level of its concepts and methods. (Japiassú, 1976)
	“Interdisciplinarity is the combination of several disciplines that constantly work with each other. Astronomical research is a classical example of this.” (Weil, 2007, n/ p.)



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	<p>Interdisciplinarity refers to a strong co-ordination between or among disciplines, with a more effective intercommunication among researchers from different fields; the different disciplines adapt their methods to the common effort - with planning and intention to continue, and the common object of study also becomes the object of each discipline in itself. This concept is opposed to intradisciplinarity which stems from the special feature of an object of research which becomes the focus of a subdiscipline, which however does not turn autonomous in methods for the discipline to which it belongs. (Carvalho, 1988, p. 93)</p>
	<p>Interdisciplinarity [as] a more synthetic attempt of mutual interaction [among disciplines]. (Huutoniemi et al., 2010, p. 80)</p>
	<p>As a methodological approach, interdisciplinarity is considered a direction of knowledge in order to “overcome fractured visions” and dichotomies of reality and to “break barriers”, particularly between special and general knowledge and between theory and practice. (Bochniak, 1992, p. 19)</p>
	<p>“[...] The concept of interdisciplinarity has been listed as [...] more than overcoming the barriers between scientific disciplines (such as a rule it is understood), while more than cross the borders and oppositions, until then established, between Science, Philosophy, Art and Religion [...]; as overcoming any fragmented view we have of our world, ourselves and our reality. Which, however, does not mean that under such a statement their distinctions, separations and / or classifications that we usually use, and which assume interesting and necessary districts for the analysis of phenomena considered need to be disregarded or neglected. And so, for example, in an interdisciplinary perspective, neither despised nor disregarded is the separation or the distinction among sciences, the separation or distinction among the broad areas of production and expression of knowledge [...]; separation and distinction between body and mind – thought, feeling, movement of the human person, the separation and distinction between theory and practice etc. Contempt and disregard is the distance between such districts and / or even the opposition between these spheres [...].” (Bochniak, 1993, p. 288-9)</p>
	<p>Interdisciplinarity is also noted as an ideal of science in post-modernity, when “overcoming any dichotomy” is cultivated. (Pereira, 2005, p. 37)</p>
<b>Multidisciplinarity</b>	<p>“Multidisciplinarity is considered the coexistence of various disciplines and various persons who work in different disciplines, and who have no contact and no relationship with each other. This is probably the case in most situations within universities.” (Weil, 2007, n/ p.)</p>
	<p>Multidisciplinarity is related to the moment of a research in which contributions of different disciplines are used, but such collaboration is “highly localized and limited”, and each discipline maintains its own field of study, independently of its methods and its scope. (Carvalho, 1988, p. 93)</p>
	<p>Multidisciplinarity [as] a conglomeration of disciplinary components. (Huutoniemi et al., 2010, p. 80)</p>
<b>Pluridisciplinarity</b>	<p>“Pluridisciplinarity is the coexistence of various disciplines that are occasionally combined, according to their need. For example, this is the case of various professionals and disciplines in a clinic or a hospital that get together when they need, such as when a patient's life is in danger.” (Weil, 2007, n/ p.)</p>
	<p>Pluridisciplinarity is the study of a same object by different disciplines, but without a unity of concepts and methods. (Japiassú, 1976)</p>



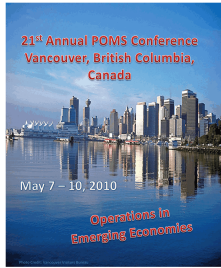
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<b>Transdisciplinarity</b>	“What, then, is transdisciplinarity? It is the search and the description of the common principles that rule over several disciplines.” (Weil, 2007, n/ p.)
	Transdisciplinarity is the development of a new object, studied by a method common to several disciplines, in a process that culminates in the creation of a new science, consisting of contributions from several fields of knowledge; there is a complex unity of the object with a multiplicity of aspects of this new field of knowledge heterogeneously formed. (Carvalho, 1988, p. 93)
	Transdisciplinarity “is the knowledge obtained from all the cultural knowledge, that is, from Science, Philosophy, Art, Religion and Common Sense, It is a knowledge that derives from the major sphere of human knowledge”. (Pereira, 2006, p. 5)
<b>Multi-referentiality</b>	Multi-referentiality is today a critical epistemology. It does not refer to disciplines (essentially defined by its object), but to different theoretical fields. It aims at a heterogeneous and global approach of plural objects. (Berger, 2000)

**Table 1 – Concepts about relations among disciplines of knowledge**

Source: the authors.

Given the plurality of concepts, it is interesting to seek a classification that is more appropriate and close to the current language in scientific circles. It is interesting to identify interdisciplinarity as an open concept, which relates to various degrees of integration between or among disciplines. A close integration between or among areas of knowledge that is so profound that it could create a new science is a quantitatively limited phenomenon in the scientific field. This would be an advanced level of interdisciplinarity. What usually happens, however, is the occasional combination of various disciplines to study a particular object, in a particular research; or in education, in terms of holding the study of various issues with a focus on a particular topic. This would be a basic level of interdisciplinarity, more commonly noted. As broadly conceptualized, interdisciplinarity (*lato sensu*) could be understood as a genre in which different levels of integration could be specified between or among fields of knowledge,



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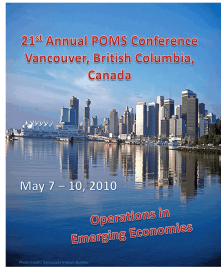
covering, as species, multidisciplinary, interdisciplinarity in the strict sense, transdisciplinarity, etc<sup>1</sup>. On the other hand, there is a coexistence but not an integration of fields of knowledge, conceived by Weil (2007) as multidisciplinary. But it should be noted that this non-integration is relative, as independently, consciously or not, the areas of knowledge are formed and – continuously or discontinuously – enter knowledge that would not fit in its original scope, beyond sharing similar methods and similar theoretical bases.

### **3. Music, Operations Management and interdisciplinarity**

Musical knowledge is often considered as belonging to a strictly “artistic field” and opposed to what is considered “scientific knowledge”. To overcome the “informal” or “non-scientific” character of the knowledge about music, references in other areas of knowledge are provided, establishing it as a clearly interdisciplinary field. In fact, since its inception, music is combined with other fields of human knowledge, because of its complexity. In antiquity, for example, Pythagoras (571/0-497/6 BC) sought to establish the mathematical foundations on which the musical production was based. Plato understood music as art, technique and practical science (*téchne*), as a rational activity toward a productive end; as knowledge (*sophía*) or theoretical science (*episthème*), as stated Nascimento (2003). At the end of the fourth century AD, when writing his

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<sup>1</sup> Nissani (1997) disagrees about the definition of various types of interdisciplinarity.

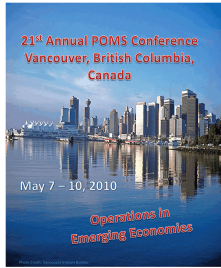


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treatise *De Musica* ('About Music'), Augustine of Hippo (354-430 AD) considered music a science (Augustine, 1988).

Currently, many studies in the fields of physics, philosophy, sociology, psychology, biology, cognition, neuroscience and education – to name the most exploited fields – are being conducted aimed at understanding the musical phenomenon in its multiple dimensions. This is the case, for example, of the studies of medical sciences about voice and singing, and of the researches on musical pedagogy.

On the other hand, in the field of operations management (OM), which truly is an interface between business administration and industrial engineering (production engineering), interdisciplinarity is present in the paths of several of its main intellectuals. Precursor of the Classical Theory of Management, Henri Fayol (1841-1925) had a Bachelor of Engineering degree from the National School of Mines in Saint-Etienne, France, and in 1916 published his founding work *Administration Industrielle et Générale*, which was translated into English in 1949 as *General and Industrial Management*. Frederick Winslow Taylor (1856-1915), author of *The Principles of Scientific Management* (1911), was a mechanical engineer. Peter Ferdinand Drucker (1909-2005), one of the most popular authors of management today, was a Bachelor of Laws and received his PhD in International Law, worked in the export sector, was an economic journalist, newspaper editor, an investment analyst and economist, before starting his activity in management as a consultant and a professor. Chester Irving Barnard (1886-1961), considered a renewer of the ideas about a



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manager's job, had worked as a piano tuner and studied economics at Harvard; even without obtaining a degree, thanks to his contributions to business administration Barnard received seven PhD *Honoris Causa* titles. Herbert Alexander Simon (1916-2001), author focused on decision-making, had a Bachelor's degree and received his PhD in Political Science, working primarily with public administration and later with business administration. Henry Mintzberg, important author of organizational strategy, had a Bachelor of Mechanical Engineering degree and worked in the Canadian Railways. John Paul Kotter, a leading scholar of leadership and organizational change, had a Bachelor of Electrical Engineering degree from the Massachusetts Institute of Technology (MIT), and subsequently obtained a PhD in Organizational Behavior from Harvard. Rosemary Stewart, a scholar of managerial behavior and work, had a Bachelor of Economics and Social Philosophy degree, and has developed research on management in health and politics. David A. Nadler, who had a Bachelor's degree in Political Science and International Affairs, a Master and a PhD in Psychology, and Michael Tushman, who held a Bachelor of Electrical Engineering degree, a Master in Industrial Relations and a PhD in Organizational Studies, are major authors of organizational studies. Peter Senge, scholar of the concept of learning organizations, received a BS in aerospace engineering, studied philosophy and earned a MS in social systems modeling. Michael Porter received a B.S.E. with high honors in aerospace and mechanical engineering and has music as a hobby (Escrivão Filho; Perussi Filho, 2008).



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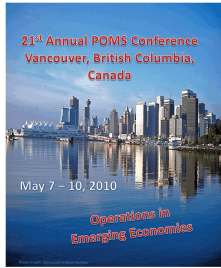
Therefore, the intellectual constitution of the area of administration / management comes from several disciplines.

Buhman, Kekri and Singhal (2005, p. 495) point out: “While most OM [operations management] problems interface with economics, psychology, and other areas of business, some emerging issues extend the boundaries of OM beyond them”.

#### **4. Music and management: a Brazilian overview**

Papers with multiple approaches of the inter-relation among music, administration, management and industrial engineering (production engineering) were examined. In this section, some of these papers published in the proceedings of two important Brazilian conferences on management are detached. The conferences are the National Encounter of Production Engineering (‘Encontro Nacional de Engenharia de Produção – ENEGEP’), promoted by the Brazilian Association of Production Engineering (‘Associação Brasileira de Engenharia de Produção – ABEPRO’), and the Conference of the National Association of Research and Graduation in Management (‘Encontro da Associação Nacional de Pós-Graduação e Pesquisa em Administração – EnANPAD’).

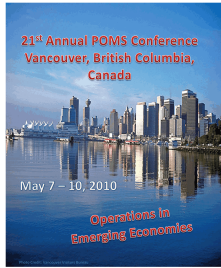
In the following table, there is an exhaustive list of the studies found in the proceedings of these events that contained any significant reference to “music” or “musical” or that exemplify an approach possible to be deepened. In the table, also mentioned with an exemplificative character, are some dissertations (MSc), thesis



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(PhD) and bachelor's degree researches designed in Brazil and that illustrate the possible synthesis of the knowledge between operations management and music. Note that other sources, such as journals and other academic events proceedings, were not surveyed.

<b>Approaches of music-management interface</b>	<b>ENEGEP Papers (1996-2008)</b>	<b>EnANPAD Papers (1997-2008)</b>	<b>Some dissertations, thesis and bachelor's degree researches</b>
Phonographic industry; technological and marketing aspects of music production and distribution; music supply chain; music value chain	Monserrat Neto (1997); Yamatogi, Nantes e Lucente (2001); Uehara (2001); Cota Júnior e Cheng (2006); Menezes et al. (2006); Côrtes et al. (2008)	Filgueiras e Silva (2002); Carvalho, Herais e Motta (2001); Kaminski e Prado (2005); Barros et al. (2008)	
Emergence of musical styles		Kirschbaum (2006)	
Music and career management		Kirschbaum e Vasconcelos (2005)	
Music in the work environment / music and life quality at work	Lima (1998); Moraes et al. (2004); Pereira et al. (2005); Timossi, Francisco e Michaloski (2006); Santos et al. (2007)	El-Aouar e Souza (2003)	Teixeira (2005) [MsC in Music]; Morelembaum (1999) [MsC in Musicology]
Ergonomics in the work of the music performer	Paixão (1998)		
Distance music education / music and information and communication technologies (ICT's)	Fleury (2003)		
Management of culture NGOs			Santos (2009) [Undergraduate work in Production Engineering]
Management of musical-educative institutions (conservatories, musical schools and colleges, etc.)	Lemos, Alencar e Costa (2006)		
Socio-cultural activities in communitarian projects	Pena Júnior, Graciano e Válerly (2005)		



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Musical perception and cognition			Pelaez (2000) [MsC in Production Engineering]
Quality management in musical groups			Santiago (2002) [MsC in Production Engineering]; Morelembaum (1999) [MsC in Musicology]
Competences management and music / music education			Teixeira (2005) [MsC in Music]; Santiago (2002) [PhD in Production Engineering]
Music and its relation with business administration (aspects as intuition, improvisation, etc.)	Rocha (2001)	Flach e Antonello (2008)	

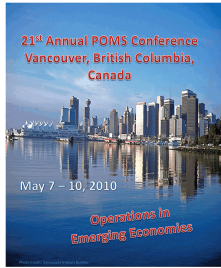
**Table 2 – Studies on music-management interface in Brazil**

Source: the authors.

Starting from the papers collected, it was possible to detach some illustrative themes of the interface music-OM.

#### **4.1. Industrial production and distribution of commercial music**

A first approach to music-management relationship that can be seen in the Brazilian production engineering and business administration literature is that on the record industry, on the technological and market aspects of production and distribution of music, on the music supply chain and on the music value chain. This approach is more traditional, as it goes back to the *Adornian* concept of cultural industries (Adorno,

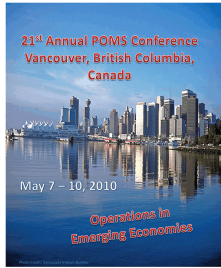


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Horkheimer, 1986; Adorno, 1994), despite the absence of all criticality. This makes it possible that even a case study on the cultural industry (or recording industry, its segment) can begin with the statement: “The various types of cultural expression of a society form its own identity” (Côrtes et al., 2008, p. 2). However, does the production of the cultural industry reflect the cultural identity of each place where it is consumed?

In this research theme, one of the areas studied is that regarding the impacts of innovations and technological changes in production and marketing of music, which creates new business models in the industry: it highlights, for example, the cheapening of portable media such as CDs and DVDs and the increasing spread of Internet, which popularized the online trading of sound (phonograms) and audiovisual contents as well as being an open space to the free dissemination of videos and sound tracks. Such changes would create a phenomenon called “long tail” (Anderson, 2006), which refers to the transition from a mass market to a segmented market, organized in segments, in which new content can gain viability of disclosure, because it would be, among other factors, a democratization of the tools of production and distribution of music (Côrtes et al., 2008).

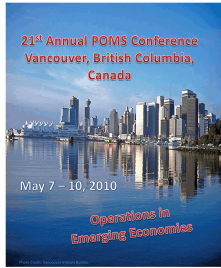
Other studies seek to understand the behavior of music consumers: this is the case of the study by Kaminski and Prado (2005). The authors highlighted a relationship between customer values and expected benefits, on the one hand, and attributes perceived in the musical product, on the other hand: in this case, an aggressive sound, with messages of reflection and allusion to rebellion was valued by young people for



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inducing animation, relaxation, euphoria and excitement. Such was the study by Barros et al. (2008), which sought to understand the behavior of consumers of music in the Internet through consumption (download) of illicit sound recordings, a phenomenon within the parameters of what is considered “digital piracy”. Carvalho, Hemais and Motta (2001) understood the delivery time of a service as a theatrical performance sponsored by the organization. In this sense, the authors sought to study the behavior of consumers facing the music that made up the ambience of the setting of delivery services.

There are also studies exploring the use of tools of production management in developing music products: Cota Junior and Cheng (2006), for example, studied the application of production planning and control (PPC) to develop ring tones for mobile phone. Other studies focus on ways of marketing music: Yamatogi, Nantes and Lucente (2001) conducted a study of multiple cases in three electronic commerce (e-commerce) companies of compact discs (CDs), showing that at the time sales of such products over the Internet accounted for 4 to 10% of the total sales in the companies surveyed. Another study investigated logistics in virtual retail (e-Commerce B2C, business-to-consumer) of CDs, exploring aspects such as cycle times, i.e. the total time of delivery of goods ordered via the Internet (Uehara, 2001). There are works that study technological changes, generally discussing examples such as the transition from cassettes to CDs and DVDs as portable media of musical content (Montserrat Neto, 1997). The study by Filgueiras and Silva (2002), who analyzed generally the record



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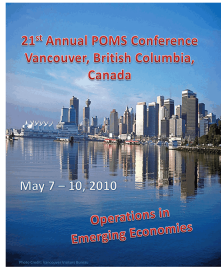
labels in Brazil, said that the Brazilian music industry suffers threats due to factors such as virtual piracy and free download of music, the ambiguity on the strategy of several record labels, the absence of brand marketing, the lack of relationship with consumers and artists and a lack of knowledge about how CDs are currently consumed. An interesting study to highlight the area that can be called entertainment engineering production is that related to the supply chain or value chain of independent music groups. Menezes et al. (2006)<sup>2</sup> studied the value chain of a rock band, meaning music as a product processed over a wide chain of strategic activities, in which each step adds value through the competitive advantage over other competitors. This would involve the productive chain starting from the creation of music up to the materialization of the product (music) through recording, marketing, distribution and the enchantment of the public.

#### **4.2. Emergence of musical styles**

In this field, to be highlighted is the interesting object of study of Kirschbaum (2006), who researched how Bossa Nova, a Brazilian musical style – an outsider and peripheral genre for international critics – reached the class of jazz, a style already established for criticism. Among other aspects, it was noted that the international legitimization of Bossa Nova was proportional to the amount of recordings that made it closer to Jazz.

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<sup>2</sup> It is possible to note the similarity between the title of this paper and the title of Boyle's paper (2004).



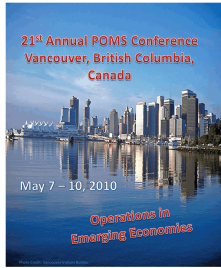
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### **4.3. Music and career management**

The various musical careers are a rich field of research, be it for the peculiarities of the market for artwork, or for the peculiarities of formation and performance the professional. An example of study on this topic is the work by Kirschbaum and Vasconcelos (2005), which focused on the study of American Jazz from 1930 to 1969, relating the typical career patterns in this field to the stylistic changes and needs of adaptation to a competitive market.

### **4.4. Music in the work environment / music and life quality at work**

There are studies mentioning aspects of the use of music in various work environments. The odontological clinic, for example, was studied by Moraes et al. (2004). Reflecting about the work of children's dentist, the authors state that the service to customers (children) may involve a series of visual and auditory stimuli that would distract the child-patient of the oral region, in which the dentist is working. According to the authors, the appropriate music is an important element for the treatment to become more pleasant and for the patient to be less tense. By studying the ergonomic work conditions of dentists in the public and the private sectors, Santos et al. (2007) pointed out that only in the public service was there the presence of music in the room of clinical care, which was considered by the interviewed professionals and by researchers as "a factor that contributes to reducing stress and anxiety during care with

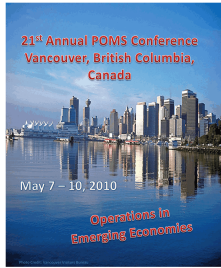


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patients that have some aversion to the 'dentist's chair'. One of the dentists surveyed said that working with music is good because it makes the patient more relaxed" (Santos et al., 2007, p. 6). Turning to another sector, Timossi, Francisco and Michaloski (2006), by studying the implementation of an ergonomic gym program in a public agency of the Brazilian federal government, highlighted the development of a work which aim was to relax, prevent and combat stress using music, breathing exercises and group dynamics. Lima (1998), by studying the issues of subjective mobilization, disciplinary control and production efficiency in continuous process industries (CPIs), reported a case in which the use of music (radio) in the control rooms, which was previously seen as a grant by the company, has been banned, and the operators "just say it hinders their work, but can not argue against the decision of the head (and their disciplinary authority) saying how and why music is also operating and part of the process control activity" (Lima, 1998, p. 6).

In this line of research, the research conducted by Pereira et al. (2005) could also be inserted, discussing the quality of the service of collective public transport operated by a bus company, highlighting the issue "comfort versus noise" and concluding that: "Probably, if assessments of decibels limits were made, the 85 db permitted by law would be exceeded, which is something that certainly directly influences in the comfort requirement" (Pereira et al., 2005, p. 1675).

Another area that stands out is the study of the interrelation music–life quality at work. Typically, the approaches relate musical activities as socio-cultural initiatives for



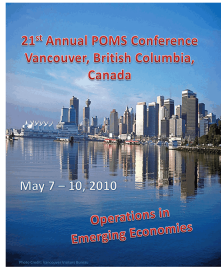
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the motivation of employees in companies. There is, however, another possible approach: to study the life quality at work of the musician himself, which was the subject of research of El-Aouar and Souza (2003).

The master's dissertations of Morelembaum (1999) and Teixeira (2005), by investigating companies choirs, studied the relation between these groups and life quality at work, which falls mainly in Deming's (1990) recommendation that the company should ban fear, encourage creativity and solving problems methods. Morelembaum (1999, p. 57) points out that the choir as a space for musical initiation represents a form of recreation and can "contribute to a change in behavior, i.e. for the emergence of discipline, openness, joy and fellowship among people". Teixeira (2005), based on authors such as Parker (1978), Elias (1992), Dumazedier (1994, 1999), Padilha (2000) and Marcellino (2003) –on the sociology of leisure and free time – seeks to understand the choir as a business strategy for human resources management.

#### **4.5. Ergonomics in the work of the music performer**

In In the two Brazilian conferences investigated, only one was found to work on this theme: Paixão (1998) evaluated the sound pressure level in the presentations of musical groups aiming at the health of both musicians and the community. The author noted that due to advances in electronics and to the development of sound amplification systems, "music, often associated with fun, the sensitivity, mingling people, began to be implemented and/ or heard increasingly higher, causing serious damage to musicians (as



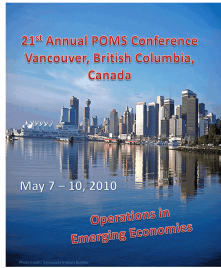
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workers) and to the community (as audience and/ or neighborhood residents)” (Paixão, 1998, p. 4), as induced hearing loss. In empirical research, the author reported that the musical groups surveyed often play higher than the noise levels specified by the rules of public peace; that musicians were used to having prolonged exposure (about five hours without a break) to high noise level and did not have adequate time and space to hearing rest during the presentations and do not use any hearing protection equipment.

#### **4.6. Distance music education / music and information and communication technologies (ICTs)**

Distance music education, as distance education in general, is a theme that is attracting more attention and stimulating debates today. In music, distance learning is possible at various levels, which leads to the emergence of distance undergraduation courses in music (in these cases, the quality is quite questionable).

About the use of music in interaction with information and communication technologies (ICTs), Fleury (2003), who studied initiatives of knowledge networks (loosely defined as “areas where there is exchange of information and experience among professionals”, p. 1), mentioned a social project that involves the initiative of setting up a small studio, which tries to show itself as a tool to create digital music by the computer user.



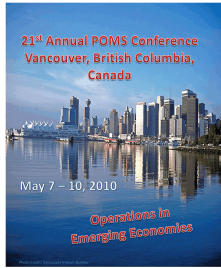
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#### 4.7. Management of culture NGO's

The management of non-governmental organizations (NGOs) is the subject of emerging interest since the 1990s. Most of these organizations develop cultural projects, often involving music education. Santos (2009), for example, in a bachelor degree research, studied management in the nonprofit sector, taking as an example the Baccarelli Institute, in São Paulo.

The Baccarelli Institute is an educational nonprofit organization that aims to provide musical education and artistic excellence for children and young people in situations of social vulnerability, providing personal development and creating the possibility of professionalization.

Located in the Heliopolis community, Sao Paulo, the entity manages the projects: Heliopolis Symphony Orchestra, orchestral practice; the Orchestra of Tomorrow, initiation and improvement in instruments study; People's Choir, initiation and training in choral singing techniques with scenic expression; Enchant School, choral initiation applied in public schools. (Baccarelli Institute, 2009)



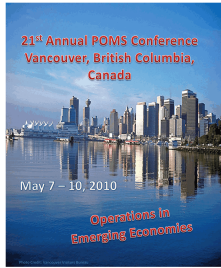
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#### **4.8. Management of musical-educational institutions (conservatories, musical schools and colleges, etc.)**

Interesting studies could be conducted on the management of music educational institutions, because their leaders generally are musicians with little or no information on business management, which makes them unable to apply the main concepts in management of organizations, as those relating to human resources management. However, the only study that approaches this field of research found in the conference proceedings searched is a paper on electronic government (e-gov), which examined the sites of institutions linked to the State of Pernambuco, among them the site of the Pernambuco Conservatory of Music (Lemos, Alencar and Costa, 2006).

#### **4.9. Socio-cultural activities in communitarian projects**

There are several possibilities for developing cultural projects involving music. These projects can be made possible by governments or organizations such as universities (in the area of continuing education) and enterprises (within programs of life quality at work or as an initiative of corporate social responsibility and socio-cultural sustainability). However, despite the possibility especially of the latter approach (business) to develop studies in business management, only one study that approaches the subject was found in the conference proceedings surveyed: Pena Júnior, Graciano and Válerly (2005), reflecting on university and local development, mentioned a project that promotes sports lessons, music and other artistic activities for children aged seven



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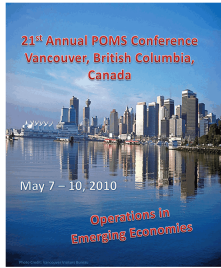
to fifteen. This project is funded by the Federation of Industries of the State of Ceará (FIEC), specifically the Action Group on Social Responsibility (GARS), and also by the Association of the Bakery and Confectionery Industries of the State of Ceará (SINDPAN).

#### **4.10. Musical perception and cognition**

This is a subject that could hardly be related to business administration or engineering. However, it was the focus of the research conducted by Pelaez (2000), as a master dissertation in Production Engineering, in the area of “media and knowledge”. The author studied the biological processes involved in perception and cognition of sound, discussed issues involving the physics of sound waves and finally discussed the abilities of “learning to know, to do, to live together and to be through music” (Pelaez, 2000, p. 150). Without questioning the merits of the study, there is a clear mismatch theme: the search could have been developed in the areas of music, biology, neuroscience, medicine, speech therapy, physics (acoustics) and even in philosophy or pedagogy; in industrial engineering, hardly ever. In literature, there is not an author in the area of production engineering, in which the thesis was presented.

#### **4.11. Quality management in musical groups**

Two approaches are possible relating quality management and musical groups: quality management within the artistic group or the impacts of the artistic activity on the



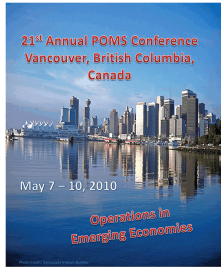
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quality management of the organization it belongs to. Santiago (2002), in a master's dissertation in Production Engineering, in the area of "quality management", reported actions of continuous quality improvement in an "experimental orchestra" and concluded that it is very effective in managing such groups. Morelembaum (1999), in a master's dissertation in musicology, studied the influence of coral activity for quality programs in business, noting that:

The man is the whole, and in this process, body, voice and emotion interact simultaneously. Emotions are intrinsically linked to body balance and posture is crucial in voice quality. This holistic view, for which the coral is widely used, is one of the pillars of life quality, inserted in the Total Quality philosophy. (Morelembaum, 1999, p. 76)

#### **4.12. Competences management and music / music education**

Despite the variety of concepts, abilities and/ or competences are highly diffused concepts, especially in education and management. Santiago (2006) sought to use the concept of competences management to develop a diagnostic model of the attributes of the music educator in undergraduate courses in music. The research was supported as a PhD thesis in Production Engineering, in the area of "quality management". As a simplification for the thematic review of the adequacy of this work, it could be noted that the thesis totals (with attachments) 315 pages; without appendices, the thesis has

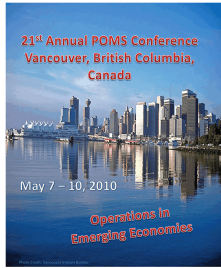


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250 pages. From a literature review of more than 160 pages, only 13 pages are devoted to a theme that can be classified as relevant to industrial (production) engineering, just the concepts of “competences” and “competences management”. The rest of the literature review introduces basic elements of music and music education history (since Ancient Greece), and design visions of several authors of music education on what a musician or a music educator should know. From an extensive bibliography, less than 10 jobs are in the area of production engineering or management. In his master’s dissertation in music, Teixeira (2005) used the concept of competences and carried out studies in three companies to complete what would be the competences required for a choral conductor to work in enterprise choirs. She concluded that these competences would be: musical training, play a harmonic instrument (e.g. the piano) and be flexible. In the dissertation, the literature about competences, developed in the areas of pedagogy, music education, business administration and production engineering, was composed of about 10 works.

#### **4.13. Music and its relation with business administration (aspects such as intuition, improvisation, etc.)**

The use of musical field metaphors in the literature and in daily business management is already apparent. Depending on the administrative matter, a particular aspect of music is chosen, usually seen from the perspective of the social common sense: leadership is associated with the conductor; the group work, to orchestra or choir;



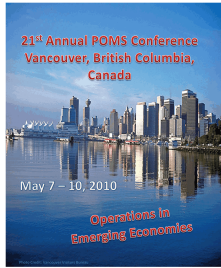
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creativity, improvisation and flexibility to the activity of the musical composer or interpreter (especially Jazz musicians).

Whereas the traditional requirements described in management literature (to plan, to manage and to standardize) are not possible in many situations of daily business, which therefore require improvisation by the manager, Flach and Antonello (2008) highlighted several metaphors from the arts: time influences the process of improvisation; [...] improvisation starts with minimal structures; the pauses and silence are also in the process of improvisation; improvisation can be individual or collective; improvisation can be based on clichés and repetition or variation of topics; error is considered part of improvisation; group improvisation requires continuous dialogue and negotiation; performance is essential in the act of improvisation.

Rocha (2001), who studied the use of logical and rational thought, intuition and creativity by managers of two large Brazilian companies, concluded that the two last types of intellectual attitude prevailed in the first three years of operation of businesses; later logic and reason prevailed. Fisher describes the profile of ideal executives that leverage their intuition and

solve problems in a confident, unconventional manner; [...] enjoy music and reading and engage deeply in abstract themes such as truth, beauty, values; have a blind confidence in themselves; argue with much conviction ideas that support; risk and believe that it is always necessary to take risks, to get



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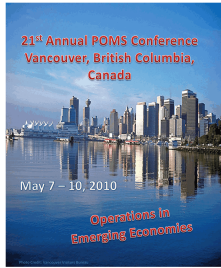
the most out of life; [...] do not feel insecure or afraid to make big changes in their lives; they are discerning, demanding, confident, prospective, informal, spontaneous, independent and creative. (Fisher apud Rocha, 2001, p. 4)

## 5. Music and management: some examples in the international literature

The international literature that investigates perspectives of the relationship between music and management has a much broader scale than Brazilian studies, and in general the studies shown in the international journals bring greater depth and density. Due to the huge size of this literature, it was not possible to do a survey intended to be exhaustive in this literature. Several studies were found that can illustrate how this research is being developed internationally, focusing only on studies published in scientific journals in English.

In article paper published in the *European Journal of Management*, Vries (1996) pointed out three leaders of leading companies in their respective fields, among them, the CEO of a music record company . The author developed a metaphor:

A metaphor for the kind of workplace that these three CEOs are trying to create is that of *a jazz combo*. In a jazz combo, all musicians work together to play harmonious music. For each player, however, there is ample room to



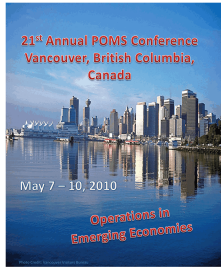
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improvise as a soloist. In their architectural and charismatic roles as leaders, they have constructed the kind of high performance, learning organization that will become the standard of the future. Many business leaders would do well to follow their example. (Vries, 1996, pp. 492-3)

In *Group and Organization Management*, Prichard, Korczynski and Elmes (2007) pointed out three possible ways of coordinating music, management and work: [?] role and impact of recorded music in work environments; what scholars can learn from music about managing and organizing; what structures and processes pattern both music and work. In the same journal, an article by El-Sawad and Korczynski (2007) examined the use of music in human resources management in the IBM company, which for several decades (up to years 1950-70s, approximately) used songs from an exclusive songbook to motivate their employees. Songs used to make an apology of values such as work, ethics, victory and personal and corporate growth.

In *Work and Occupations*, an article by Korczynski (2007) investigated, in the perspective of industrial sociology, the relation that companies staff make between their work experience and songs. Among the findings, the author said that although there were few songs with explicit criticism to working in factories, the workers created new critical meanings from songs that originally did not refer to that situation.

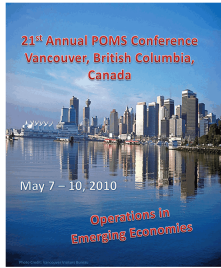
In the *Journal of Research in Music Education*, an interesting paper by Miksza, Roeder and Biggs (2010) was published, based on a survey on band conductors about



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on the abilities (skills) needed by music educators, among which are the attributes: to maintain high musical standards, to be able to motivate students, and to be enthusiastic, energetic.

In the *International Journal of Arts Management*, various papers can be cited. Ropo and Sauer (2007) studied “world class” orchestral conductors, seeking to understand how different actors work together to form these conductor’s leadership and global recognition, as how the studies and the careers of such conductors are and how they relate to their group. Ropo and Sauer (2003), in another paper, studied the partnerships between orchestras and the benefits of cooperation. Mehta (2003), executive director of the New York Philharmonic Orchestra, reported his experiences with the management of an acknowledged musical institution of high performance. Its management was also analyzed by Cardinal and Lapierre (2003). Tremblay (2004) sought to examine how the Stuttgart State Opera and its maestro deal with tradition and innovation in a century-old institution, and how they develop leadership and human environment in the organization. Nopper and Lapierre (2005) studied the organizational and administrative structure of the Royal Opera House in London. Preece (2005) studied the value chain of the performing arts. Carù and Cova (2005) sought to understand classical music concerts, investigating the intangible changes that occur in the production of this cultural service. Smith (2002) studied the internal governance of an a cappella vocal group. Chaney (2010) studied the dynamics of amateurish record labels . Paleo and Wijnberg (2006) studied the popular music festivals and how they



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contribute to form and legitimate musical genres. Montanari and Mizzau (2007) researched the formation of independent music labels, with reference to a case study. Brooks and Kushner (2002) reflected on the cultural environment of cities that are considered the capitals of art. Boyle (2004) studied the human resources management in bands of professional musicians. Boyle (2003) also studied the insertion of a regional orchestra in the community. Sicca and Zan (2005) studied the speeches on management in opera houses in Italy. Hausmann (2010) reflected on the conflict of musicians in facing their activity idealistically and romantically or as a business. Ravanis (2008) studied how an orchestra in decline has reversed its position with innovations in its services.

In the *Journal of Management Education*, Fairfield and London (2003) sought to draw metaphors about learning and group work (team-based learning) from the work in bands and analogies with musical-technical aspects such as melody, harmony, rhythm, dynamic and time.

In *Young Consumers*, Nuttal (2008) aimed at understanding the meanings that adolescents attach to the music they consume, exploring the values that determine the demand.

In *Psychology & Marketing*, Oakes (2003) studied the effects of music from different pulses in the satisfaction of consumers in service environments. Similar to this was the study by Caldwell and Hibbert (2002), who researched the influence of music on consumers' behavior in a restaurant.



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In the *International Journal of E-Business Research*, Papagiannidis and Berry (2007) discussed the transformations of business models for musical commerce because of the growth of the online music industry. Theodoulou and Papagiannidis (2009) seek to adapt the analysis of the music creation and distribution mechanisms to study television production.

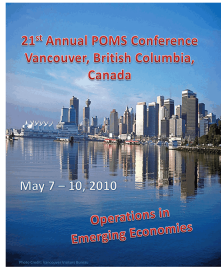
In *Management Research News*, Coloma and Kleiner (2005) discussed how music can be used in business, its effects on emotion and behavior and its use in advertising.

In the *Information Resources Management Journal*, Lesiuk, Pons and Polak (2009) studied the effects of music on the mood of people working in the development of information systems (computer information systems developers), concluding that such listening can improve the working environment and the mood of professionals, and can lead to cooperative behavior and to problem-solving.

In *Applied Cognitive Psychology*, Furnham and Bradley (1997) studied the effects of music during labor in concentration, memory and distraction of people.

In *Productions and Operations Management* (POMS journal), Rabinovich, Maltz, and Sinha (2008) studied the traditional theme of music trade, by analyzing the accessibility, the quality of services and the attributes of music sold in e-commerce.

In the *Asia Pacific Journal of Management*, Hill (2007) studied digital piracy in Asia.



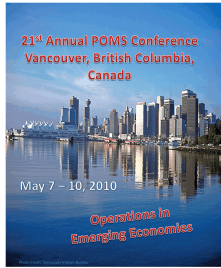
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## 6. Concluding remarks

Studies on music and management bring contributions and advantages typical of interdisciplinarity. On the one hand, musical activity can gain in quality at the time its actors become aware of techniques and concepts of operations management (OM); and OM researchers can enrich their studies and theories when learning about the field of art activities. Moreover, interdisciplinary research may suffer deficiencies of content, since there are hardly enough qualified professionals to assess a study involving production engineering, management and music; thus, many work by researchers from management operations turn out to lack sufficient knowledge in music, as studies performed by musicians may reveal a very low level of understanding of OM concepts. This makes some works superficial.

Concerning the review of the Brazilian literature, many of the studies mentioned do not show what can be conceptualized as interdisciplinarity, as they do not require knowledge of music and knowledge of management: in general, they are just management studies, the subject of which is music, and these studies do not require technical knowledge in this artistic area.

Still concerning the Brazilian research, it is important to note that some studies were not selected because they were not presented in the conference proceedings searched and have not been submitted as a master's dissertation, a PhD thesis or a bachelor's degree research. These studies focus mainly on aspects of leadership, motivation, human resource management, work organization and competences



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management in musical groups (choirs), and on abilities and competences and other managerial aspects of a maestro's job (Fucci Amato, 2007; 2008; 2009; Fucci Amato; Amato Neto, 2007a; 2007b; 2007c; 2008; 2009).

All possible approaches on *music-management* interface outlined in this paper are open fields waiting for a broad development of researches.

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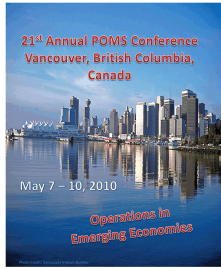
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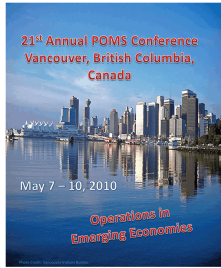
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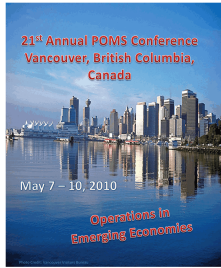
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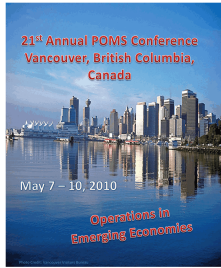
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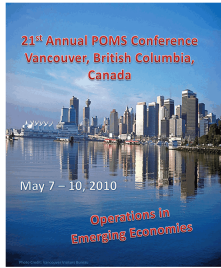
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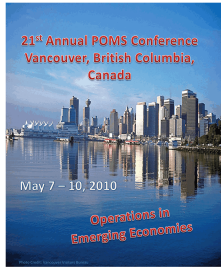
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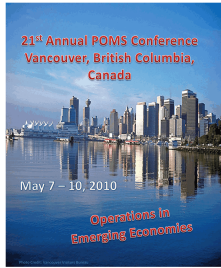
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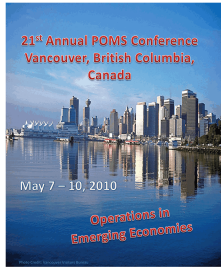
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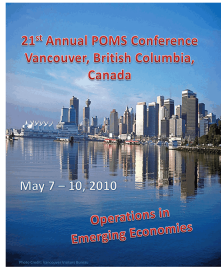
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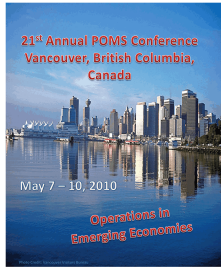
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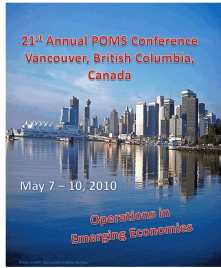
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