Online ISSN: 2249-4588
Print ISSN: 0975-5853
DOI: 10.17406/GJMBR

Global Journal

of Management and Business Research: A

Administration and Management



Maturity in the Public Sector

Sustainable Compliance Programs

Highlights

The use of Lean Manufacturing

Exploring Opportunities and Successes

Discovering Thoughts, Inventing Future

VOLUME 23 ISSUE 10 VERSION 1.0

© 2001-2023 by Global Journal of Management and Business Research, USA

Volume 23 Issue 27 was originally issued as A10

Global Journal of Management and Business Research: A
Administration and Management

Global Journal of Management and Business Research: A
Administration and Management

Volume 23 Issue 10 (Ver. 1.0)

Open Association of Research Society

© Global Journal of Management and Business Research. 2023.

All rights reserved.

This is a special issue published in version 1.0 of "Global Journal of Science Frontier Research." By Global Journals Inc.

All articles are open access articles distributed under "Global Journal of Science Frontier Research"

Reading License, which permits restricted use. Entire contents are copyright by of "Global Journal of Science Frontier Research" unless otherwise noted on specific articles.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without written permission.

The opinions and statements made in this book are those of the authors concerned. Ultraculture has not verified and neither confirms nor denies any of the foregoing and no warranty or fitness is implied.

Engage with the contents herein at your own risk.

The use of this journal, and the terms and conditions for our providing information, is governed by our Disclaimer, Terms and Conditions and Privacy Policy given on our website http://globaljournals.us/terms-and-condition/menu-id-1463/

By referring / using / reading / any type of association / referencing this journal, this signifies and you acknowledge that you have read them and that you accept and will be bound by the terms thereof.

All information, journals, this journal, activities undertaken, materials, services and our website, terms and conditions, privacy policy, and this journal is subject to change anytime without any prior notice.

Incorporation No.: 0423089
License No.: 42125/022010/1186
Registration No.: 430374
Import-Export Code: 1109007027
Employer Identification Number (EIN):
USA Tax ID: 98-0673427

Global Journals Inc.

*(A Delaware USA Incorporation with "Good Standing"; **Reg. Number: 0423089**)*

Sponsors: Open Association of Research Society
Open Scientific Standards

Publisher's Headquarters office

Global Journals® Headquarters
945th Concord Streets,
Framingham Massachusetts Pin: 01701,
United States of America
USA Toll Free: +001-888-839-7392
USA Toll Free Fax: +001-888-839-7392

Offset Typesetting

Global Journals Incorporated
2nd, Lansdowne, Lansdowne Rd., Croydon-Surrey,
Pin: CR9 2ER, United Kingdom

Packaging & Continental Dispatching

Global Journals Pvt Ltd
E-3130 Sudama Nagar, Near Gopur Square,
Indore, M.P., Pin:452009, India

Find a correspondence nodal officer near you

To find nodal officer of your country, please email us at *local@globaljournals.org*

eContacts

Press Inquiries: *press@globaljournals.org*
Investor Inquiries: *investors@globaljournals.org*
Technical Support: *technology@globaljournals.org*
Media & Releases: *media@globaljournals.org*

Pricing (Excluding Air Parcel Charges):

Yearly Subscription (Personal & Institutional)
250 USD (B/W) & 350 USD (Color)

Editorial Board

Global Journal of Management and Business Research

Dr. John D. Theodore

American Military University
JDT Management Consultants, President.
D.B.A., Business Economy
University of South Africa
Ph.D. Aristotelian University
Business Administration
Ph.D. Administration, University of Kansas
USA

Prof. Moji Moatamedi

Honorary Vice Chair
Ph.D., at The University of Sheffield,
MBA, Manchester Business School
University of Manchester
UK

Dr. R. Allen Shoaf

B.A., M.A., Ph.D. Cornell University
Cornell University, Teaching Assistant in the English Department,
University of Florida, US

Professor Maura Sheehan

Professor, International Management
Director, International Centre
for Management & Governance Research (ICMGR)
Ph.D. in Economics
UK

Dr. Mehdi Taghian

Senior Lecturer
Faculty of Business and Law
BL Deakin Business School
Melbourne Burwood Campus
Australia

Dr. Carl Freedman

B.A., M.A., Ph.D. in English, Yale University
Professor of English, Louisiana State University, US

Dr. Agni Aliu

Ph.D. in Public Administration,
South East European University, Tetovo, RM
Asociater profesor South East European University,
Tetovo, Macedonia

Dr. Tsutomu Harada

Professor of Industrial Economics
Ph.D., Stanford University, Doctor of Business Administration, Kobe University

Dr. Wing-Keung Won

Ph.D., University of Wisconsin-Madison,
Department of Finance and
Big Data Research Center
Asia University,
Taiwan

Dr. Xiaohong He

Professor of International Business
University of Quinnipiac
BS, Jilin Institute of Technology; MA, MS, Ph.D.,.
(University of Texas-Dallas)

Dr. Carlos García Pont

Associate Professor of Marketing
IESE Business School, University of Navarra
Doctor of Philosophy (Management),
Massachussetts Institute of Technology (MIT)
Master in Business Administration, IESE, University of Navarra
Degree in Industrial Engineering,
Universitat Politècnica de Catalunya
Web: iese.edu/aplicaciones/faculty/facultyDetail.asp

Dr. Söhnke M. Bartram

Department of Accounting and Finance
Lancaster University Management School
Ph.D. (WHU Koblenz)
MBA/BBA (University of Saarbrücken)
Web: lancs.ac.uk/staff/bartras1/

Dr. Bassey Benjamin Esu

B.Sc. Marketing; MBA Marketing; Ph.D Marketing
Lecturer, Department of Marketing, University of Calabar
Tourism Consultant, Cross River State Tourism Development Department
Co-ordinator, Sustainable Tourism Initiative, Calabar, Nigeria

Dr. Dodi Irawanto

Ph.D., M.Com, B.Econ Hons.
Department of Management
Faculty of Economics and Business
Brawijaya University
Malang, Indonesia

Dr. Ivona Vrdoljak Raguz

University of Dubrovnik,
Head, Department of Economics and Business Economics,
Croatia

Dr. Yongbing Jiao

Ph.D. of Marketing
School of Economics & Management
Ningbo University of Technology
Zhejiang Province, P. R. China

Dr. Charles A. Rarick

Ph.D.
Professor of International Business
College of Business
Purdue University Northwest
Hammond, Indiana US

Yue-Jun Zhang

Business School,
Center for Resource and Environmental Management
Hunan University, China

Dr. Albrecht Classen

M.A. (Staatsexamen), Ph.D. University of Virginia, German
Director, Summer Abroad Program, Medieval Europe Travel Course

Dr. Brandon S. Shaw

B.A., M.S., Ph.D., Biokinetics, University of Johannesburg, South Africa
Professor Department of Sport and Movement Studies
University of Johannesburg, South Africa

Contents of the Issue

i. Copyright Notice
ii. Editorial Board Members
iii. Chief Author and Dean
iv. Contents of the Issue

1. Sustainable Compliance Programs in Complex Organizations. *1-17*
2. Exploring Opportunities and Successes: Navigating Self-Initiated Expatriates in the USA. *19-31*
3. The use of Lean Manufacturing in Process Improvement: The Impacts of Lean Philosophy in a Medium Metallurgy Shipping. *33-41*
4. Navigating Early Career Management: Workplace Experiences and Career Impact. *43-54*
5. Innovative Multicriteria Approach to Business Process Management Maturity in the Public Sector. *55-72*
6. A Survey on Digitization of Shed Management for Indian Railways. *73-80*

v. Fellows
vi. Auxiliary Memberships
vii. Preferred Author Guidelines
viii. Index

Volume 23 Issue 27
Originally issued as A10



Global Journal of Management and Business Research: A Administration and Management
Volume 23 Issue 10 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Sustainable Compliance Programs in Complex Organizations

By Paul Klumpes

Abstract- I identify and test the empirical implications of complexity theory to investigate the effectiveness of the firm's risk management program in monitoring compliance program activity. I provide a direct link between the quality of Business Regulatory Compliance Unit (which executes and oversees the compliance program implementation) and the overall risk management quality of the firm. I use a multi-method design, incorporating survey questionnaires and econometric multivariate analysis of a sample of European firms. I find a relationship between the risk management exposure of European firms and the quality of their internal control department. I also find a strong relationship between earnings at risk for UK firms and asset-liability at risk for financial firms, but only a weak relationship between cash flow at risk and internal audit quality for European firms. The quality of internal compliance business units is strongly positively related to corporate performance over time.

Keywords: *complexity theory, sustainable compliance, internal controls, information governance.*

GJMBR-A Classification: *FOR Code: 1503*



Strictly as per the compliance and regulations of:



© 2023. Paul Klumpes. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BYNCND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative-commons.org/ licenses/by-nc-nd/4.0/.

Sustainable Compliance Programs in Complex Organizations

Paul Klumpes

Abstract- I identify and test the empirical implications of complexity theory to investigate the effectiveness of the firm's risk management program in monitoring compliance program activity. I provide a direct link between the quality of Business Regulatory Compliance Unit (which executes and oversees the compliance program implementation) and the overall risk management quality of the firm. I use a multi-method design, incorporating survey questionnaires and econometric multivariate analysis of a sample of European firms. I find a relationship between the risk management exposure of European firms and the quality of their internal control department. I also find a strong relationship between earnings at risk for UK firms and asset-liability at risk for financial firms, but only a weak relationship between cash flow at risk and internal audit quality for European firms. The quality of internal compliance business units is strongly positively related to corporate performance over time.

Keywords: complexity theory, sustainable compliance, internal controls, information governance.

I. Introduction

The Enron, WorldCom scandals have proved a watershed in the area of compliance and governance (Benston, 2006). The scandals provided an additional impetus for increased scrutiny and oversight on the management of these organizations, to improve investor's confidence in the sustainability of regulatory compliance programs and broader corporate risk management policies. Consequently, regulatory authorities and governments in both Europe and the US subsequently formulated various regulations to enhance governance (via increased transparency in financial reporting and disclosure). This issue is particularly pertinent to European firms that choose to list their securities in US markets, as they are subject to the enhanced reporting and risk management monitoring requirements of the Sarbanes Oxley Act, 2002 (hereinafter, 'SOX').

A number of consultancy firms (e.g. McKinsey, 2017; NetIQ, 2019; MicroFocus, 2019) have alerted firms to the challenges that complex organizations face in order to develop a compliance program to meet the increasing complexity and scope of the post-SOX regulatory environment. These issues are particularly relevant for multinational firms that are subject to a complex array of regulations, as they seek to develop a 'Sustainable Compliance Program'. Such issues seem to be particularly relevant to financial firms, and to those adopting big data technologies in both sales and service provision. Moreover, institutional environments such as the UK have further explicated standards for enhanced corporate risk governance (e.g. the UK Revised Corporate Code, 2015).

While the Post-Enron, SOX regulations that firms have to comply with have been heavily criticised (e.g., Benston, 2006) and their cost implementations, the implications for the quality and integrity of internal control departments that presumably are responsible to monitor their effectiveness, has received relatively little attention. The impact of SOX on cross-listed firms is well researched as well, as evidenced by Litvak (2007), Bianconi et al. (2013), and Arping and Sautner (2013). However, none of these studies considered the broader inter-connections between corporate effectiveness in implementing these regulations, and their broader connections with corporate risk management and information governance policies. For example, Damania et al. (2004) find that firms are able to evade compliance with regulations in countries with relatively higher levels of corruption, while Jiang et al. (2015) propose a consistency and compliance checker framework to ensure regulatory compliance which is validated by a case study of customs declaration.

Moreover, such issues have largely been ignored by the currently dominant "agency paradigm" of corporate governance theory that is primarily concerned with the importance of the "top down" primacy role of shareholders and stock markets in solving corporate governance problems (e.g. Jensen and Meckling, 1976; Jensen, 1983, 1998), as presumed by prior literature reviews of the relationship between internal control departments and governance (e.g. Gramling et al. 2004, Carcello et al. 2011). By contrast, the "bottom up" implications associated with the effectiveness of individuals and business units charged with implementing regulatory compliance programs upon which complex organisations increasingly rely, has been largely ignored. Goergen (2012) draws on insights from complexity theory to examine the inter-relationships between the entire corporate governance 'eco-system' various other stakeholders and gatekeepers, such as auditors, regulators and internal compliance units.

The purpose of this paper is to examine both demand and supply side 'influencers' that affect the operational effectiveness of compliance program management (SOX in particular) within organizations.

Author: e-mail: pjmk@business.aau.dk

© 2023 Global Journals

Specifically, we focus on the extent of interrelationship among three main areas – the internal 'supply side' influence of organizational design (people, process, structure) and information systems strategy, and the external 'demand side' influence of corporate governance on the overall culture of compliance management within organizations.

This paper draws on the insights of complexity theory to extend relationships with stakeholders within the broader "corporate governance social ecosystem" to study the sustainability of activities to monitor firms' operational risk management exposures (Goergen et al., 2012). Mixed methods research is used to examine how regulatory changes have multiplied the operational risks faced by both UK and EU organisations. The survey provided insights into the quality of internal control departments responsible for monitoring the firm's compliance program management. Empirical tests were then conducted to examine the cross-sectional relationships between firm risk and compliance unit quality.

The rest of this paper is as follows. Section 2 overviews the institutional background to the study. Section 3 identifies various influences related to management, internal control and organisational design. Section 4 develops predictions. Section 5 discusses the results of empirical tests. Section 6 concludes.

II. Institutional Background

This section briefly describes the standards /framework (COSO) that currently exists, and, used by companies worldwide for complying and implementing SOX, as well as other compliance program that are proposed as having contextual similarities with SOX.

By emphasizing the need for having 'effective' and 'efficient' operations as one of its key objectives in the definition of internal controls, the COSO Internal Control – Integrated Framework, effectively puts the management of internal business operations in the critical path for SOX 404 compliance management (Heier et al., 2004). But while the SOX 404 essentially adopted the COSO framework as the benchmark for internal controls for financial reporting, it does not provide any guidance as to these can be implemented to influence executive management's decisions (Datar and Alles, 2003).

Given the importance of information systems integrity to effective SOX implementation, one might expect information systems to be managed to create business value and sustainable compliance programs. However there is very little knowledge about this important issue. While the general management principles for information systems have been discussed extensively, the economic impact of these practices is not fully understood even in heavily regulated industries such as insurance (Hitt, 1999). Most of the previous literature has instead focused on the general benefits and costs of SOX implementation.

Ribstein (2005) argues that internal controls cost and compliance management are the most prominent of the costs related to SOX implementation, and finds a negative impact (cost-wise) on the smaller firms. Ge and McVay (2004) confirm Ribstein's study on the increased impact of the SOX on smaller firms. They suggest that smaller firms tended to show more cases of material weakness in their filings, vis-à-vis larger ones. This directly reflects the inability of smaller firms to detect and provide effective internal controls for identified risks, presumably because of (lack) of resources. This suggests that the increased time spent by the firms to document their internal process, and controls for their 2004 certification, is a clear indication of the 'time' (of resources) constraints imposed by the process.

Engel et al. (2005) suggests that the SOX benefits are far outweighed by the costs. This finding is corroborated by actions taken by some European companies that have preferred to pull out their US listings apparently to avoid the costs implications related to SOX compliance. Berger (2005) finds that amongst non-US firms based in countries with medium to strong "shareholder-protection", are more likely to claim that the benefits of SOX compliance are outweighed by the costs than firms based in countries with weak "shareholder-protection' business compliance programs.

Another contributing factor to the overall costs relates to the increased monitoring needs, which we discuss in greater depth when looking at the role of the board. Linck et al (2005) provide empirical evidence of executive and board pay increase directly because of the SOX enactment. They also provide further evidence of the disproportionate impact of SOX implementation on smaller firms.

Other empirical studies have examined whether SOX has affected firms' market value, but their results are equivocal. On the one hand, Chhaocharia and Grinstein (2005) find that SOX compliance has a positive influence on "firm value". However, they cannot attribute whether the increased returns of firms post-SOX to either governance introduced by SOX, or just the reduced information asymmetry associated with the promulgation of the Act. By contrast, Rezaee and Jain (2005) find that only those firms with better governance models (prior to the SOX enactment) ended up increasing their market value, subsequent to the enactment.

The other contention of the negative impact of SOX relates to 'work inefficiencies'. Organizations contend that with increased need for documentation of processes and controls, the workload on the individual performing a task has disproportionately increased, resulting in less output and loss in productivity. Cohen et al. (2005) find a significant drop in the research and development expenses and capital expenditures subsequent to the implementation of SOX. Ribstein

© 2023 Global Journals

(2005) contends that executives are concerned about potential increased litigation risk due to weak internal controls.

There are also cultural differences in corporate governance quality that can affect the propensity of European firms to adopt SOX compliance programs. For example, in the UK Corporate Governance Code (2015) requires companies to take the responsibility for internal monitoring to identify and create an effective risk – control matrix for the organization. However, the UK voluntary code is based on 'comply or explain'[1].

III. Influences on Regulatory Compliance Culture

This section explores the demand for, and supply of, sustainable compliance programs through identifying various influences related to recent regulatory demands for greater accountability related to regulatory compliance programs related to (a) regulatory compliance and complexity and (b) internal control culture and (c) corporate governance effectiveness. Figure 1 summarizes the complexity theory framework that underlies the various external and internal influences on regulatory compliance culture.

a) Regulatory Compliance and Complexity

As the organization expands geographically, the complexities of managing compliance increases disproportionately. For example, a public limited UK firm with an American subsidiary, would need to satisfy at the minimum: financial regulatory obligations (IAS reporting, Sarbanes-Oxley (SOX), as well as new information privacy rules (EU newly updated General Data Protection rules related to customer communication, California data privacy rules).

Swingly (2005) provides real-life examples in the banking industry, trying to cope up with the new Basel II regulations. He refers to "oversight committees" and "steering groups" (e.g. "KAS Bank"), comprising of the operational heads of the business units, along with the auditors, treasury and the risk management leads, that jointly plan and manage the project "from analysis of the consultation papers, to the assessment of what processing will be affected and ultimately to who needs to be involved". He also provides examples of "wholesale restructuring of the organization in creating a 'centralised' compliance group, which would then have the responsibility for overseeing the compliance program, including targeting the processes and departments to ensure compliance".

Swingly (2005) provides a glimpse on the ongoing debate of the actual running of the compliance programs within the organization. The models range between a completely 'centralised' enterprise-wide compliance group, to completely 'autonomous' business-unit/functional level compliance management groups. While the former, provides an 'enterprise wide' oversight, and theoretically, can ensure that the best resources are used in the most appropriate task once – (i.e.) better possibility of using resources efficiently, the latter provides the flexibility of the 'business' experts extending their operational expertise into the area of managing their unit's compliance needs. The business-unit heads generally favours the latter model, as it still leaves the compliance program under their control, whilst the former turns compliance into a 'corporate' function.

Requirements from regulatory compliance programs like SOX (that holds the management responsible for ensuring the appropriately qualified person performs the role), has also increased the need for organizations to train their employees. For SOX, organizations have two different training needs that need fulfilling – generic end users training on SOX requirements and compliance, and, more function specific training that relates to SOX implications on the specific job role (for process owners). While the process management (standardized vs. non-standardized) has bearing on the scope of training, the execution of the training itself is dependent on the structure of the organization (CEB, 2004). However, the process literature generally fails to explain the potential for agency conflict that gave rise to SOX.

The placement of the internal controls unit within the organization also has a direct impact on all aspects of internal controls setup for SOX – control testing, co-ordination, and control design. CEB (2004) suggests a positive relationship between process standardisation and the centralisation of the compliance unit function. Another key element in the organization structure is the presence of the risk management function and its proximity to the compliance unit. The emphasis on risk management by the existing frameworks (COSO) expanding the monitoring to beyond financial controls has resulted in firms looking to integrate their existing risk management practices with the new compliance units to achieve economies-of-scale with their internal controls testing (CEB, 2004).

b) Compliance Culture in Organizations

To create a sustainable compliance program, the ethical behaviour of management and employees is a critical factor. There is a strong need to build a culture that would accept 'change' in work practices. This acceptance of change is crucial, as this would enable the employees of the organization to assimilate the newer (compliance-oriented culture) requirements into their daily work practices, enabling the organization to achieve efficiencies faster.

[1] Firms can opt-out, as long as they meet the minimal guidelines set by the regulatory bodies and can provide a satisfactory explanation of their work practices, when required.

© 2023 Global Journals

Allman (2005) argues that organizations have always propounded different codes of conduct by which their employees are governed and expected to act, in an informal setting. However, US Federal Sentencing Guidelines require organizations to promote "ethical behaviour" and "commitment to compliance" by their employees. He suggests the management should provide 'thought-leadership' emphasizing the values and commitment which need to be espoused by the employees, and recommends that the aspects of information handling – including retention, be incorporated in the 'core' values of the firm, encompassing the information systems training programs and corporate policies and procedures.

Allman (2005) recommends "The Sedonna Guidelines" whilst trying to influence the cultural aspects of the firm, for accommodating the practices related to information handling and retention. These guidelines include recommendations on assessing the real drivers for information retention (e.g.) legal considerations and not just day-to-day business drivers, and using technology efficiently to provide an effective archival mechanism, facilitating, easy retrieval and access. Allman (2005) concludes that organisations should adopt a "functional" view of their information retention needs, as opposed to looking from a "departmental" perspective. This holistic approach to documentation management, combined with effective co-ordination between different groups in the organization, led by the legal team, holds the key for formulating a sustainable policy on information retention.

With the growing regulatory needs, employees often find themselves suffocated or overloaded with regulatory requirements. One of the unintended consequences, for the majority of 'well-governed' organizations, relates to employee morale. The employees in such organizations, deluged with paperwork, constantly seek to 'robotize' their work output – using lesser and lesser of their own ingenuity due to the fear of non-compliance. Ultimately, this drudgery at work reflects in the lower employee morale. In addition, employees when put under a compliance regime, with clearly defined personal liabilities (like in SOX) tend to work in a climate of fear, not wanting to make any mistakes. This "Fear of failure" is costing organizations heavily, especially in the area of SOX internal control testing (wherein testing objectivity is lost as a direct consequence). Compounding this issue, employees feel less inclined to query or question decisions, taking away an effective 'sounding board' for the management.

Prior literature is equivocal as to the relative merits of decentralized versus centralized modes of organization that are most conducive to an effective compliance culture. On the one hand, Levine (1997) proposes "a system based on conditional deregulation, where companies with good records of compliance can choose to work with their employees to improve compliance and face fewer regulations, inspections and penalties". This is based on a mixture of "oversight" and "self-regulation", facilitated by 'workers body' (similar to the dual corporate governance board or joint supervisory and 'workers council' model which exists in Germany and France), to negotiate with the organization on the level of "self-regulation" and the "spheres" within the organization which would be managed by this program.

By contrast, Bryan and Lilien (2005) relate complexity in the organization process (e.g. operating in multiple tax requirements) to the firm finding material weaknesses in their process. They also imply that in such cases find a positive relationship with the testing resources used for control process testing. They identify the "siloed functional structure" in organization design as an additional factor that contributed to the increased prevalence of controls weaknesses. They also claim that greater efficiency in design underlying process would reduce the level of compliance activity needed to validate the process. Davenport (2005) identifies the processes that affect the given compliance program (in the instance of SOX, those processes that affect the financial accounts in the firm's statement of accounts). By standardising processes (for their business activities, like order management and revenue recognition), the organization removes one of the primary causes for controls failure within the internal controls structure.

However, there are also broader societal demands for accountability which can affect the compliance-oriented effectiveness of organisational culture. While business compliance programs (e.g. SOX) have started to hold individuals liable with legal penalties for any misdemeanours in corporations, any reoccurrence of the misbehaviour (crime) has a substantial cost (Anderson, 1999) and impact on the society (Emmitt, 1993). Murphy (2002) calls for compliance programs to be amalgamated into the overall organizational ethics and integrity program, in order to improve the effectiveness and efficiency of compliance programs. Hartman (2000) suggests 'rules' should be part and parcel of a 'value/integrity-based' culture. Hartman emphasizes the criticality for a visible, strong and committed organization leadership for this transition. Once, the leaders have bought into the philosophy, to generate the same level of enthusiasm across the organization, the program must reach-out and involve all levels of the organization, creating an infrastructure that facilitates a feedback mechanism from different parts of the organization. Establishing "effective training programs" would help in reinforcing the 'values' and "values/integrity-based" ideals, propounded by the organization. Finally, developing an "incentive structure" which promotes ethical behaviour and actively discourages unethical conduct would provide the necessary incentives for the employees for making the transition.

© 2023 Global Journals

One of the key areas not addressed in this literature relates to the organizational environment and its conduciveness to facilitate an 'inquisitive' and 'problem-seeking' culture. This involves facilitating bottom-up feedback and communication, especially in the area of internal control testing (CEB, 2004). Senior management's commitment to facilitate such openness within the organization could act as the biggest influencer for inducing this cultural shift, discussed briefly in the next section.

c) Corporate Governance Influencers

A related issue in a changing regulated environment is the effectiveness of the overall organizational governance. Prior literature on this issue tends to focus on the degree of centralization of information systems and business compliance unit resources, or the question of outsourcing. However, there is little evidence on the broader linkages between a compliance cultures with the overall corporate governance system. This section briefly reviews the role of the board and the management in shaping the organization's direction, which is proposed as being critical for the creation of a sustainable structure for managing compliance programs.

The term "corporate governance" has had different connotations over time. Berle and Means (1932) initially suggested that professional managers who were unaccountable to dispersed shareholders ran the modern corporation. This point of view subsequently reflected the narrow question how to align manager's work to better the interests of the shareholders, related to the principal-agent paradigm.

A recent, more European-oriented definition of corporate governance views a firm as having many stakeholders other than its shareholders (Kay 1996). Given the different views on the definition of what corporate governance meant, it is not surprising that there has been an ongoing debate on the subject of these alternative models of corporate governance, and the effectiveness of internal and external mechanisms of governance. Vives (2000) and Goergen (2012)both make a distinction between two major models adopted worldwide for corporate governance, contrasting market-oriented (US, UK) versus a more bank-oriented or stakeholder model (Germany). In the latter, firms and banks enter into long-term relationships as opposed to purely financial transaction basis, associated with a market-oriented model.

In contrast to the situation facing many large companies in Continental Europe, in both the UK the US, large companies have their ownership dispersed amongst institutional and private investors. The threat of hostile takeover ensures a level of corporate control on the managers of such firms. Furthermore, there are limits on cross holdings so competition is not restricted. In theory, the concern of hostile take-overs act as necessary external control and complement the board of directors who are held responsible for managing the firm's internal controls.

By contrast, in Continental Europe, the ownership of listed companies is usually highly concentrated, and there is a disproportionately high percentage of family ownership. In such a climate, hostile takeovers are rare, and pyramidal control schemes are common (LaPorta et al. 1999). The large commercial banks control companies through proxy votes in Germany. The *hausbank* of a firm plays a monitoring role and organizes proxy votes. Furthermore, there is a two-tiered system of company board for public corporations over 500 employees, which is consistent with the stakeholder theory. There is a supervisory board (50% represented by workers, and the remaining by other major stakeholders like, suppliers and customers) and a management board.

The board of directors are pivotal in providing the 'active' control over the managers within the firm. Linck et al (2005), Fama and Jensen (1983), Raheja (2005) consider boards to be responsible for both monitoring the management on behalf of the share-holders and owners, and advising the management on strategy formulation. Eisenberg (1997) contends that boards therefore should take greater ownership of the "internal controls" monitoring. Charan (2005) and Bertsch (2005) find that the board's ability to influence the management begins with the task of executive management officer (CEO) selection and planning. Hamelin and Weisbach (1998) and Raheja (2005) examine the departing CEO's influence in succession planning.

The effectiveness of the board is also influenced by the degree of independence wielded by the board in its interactions with the management and the quality of relationship that exists between them (Jensen, 1986). In this respect, the composition of the board is a critical factor (Hermalin and Weisbach, 2003). Clieaf and Kelly (2005) recommend boards take increased direct responsibility for performing accountability audit monitoring and assessing the alignment of the organization structure with its existing capabilities. Charan (2005) calls such boards "progressive", in their thinking and actions. These boards come with the necessary skill set and the knowledge in the areas of governance and do not hesitate to act as 'counter-balance' to management. Linck et al. (2005) provide evidence which suggests a potential link of this behaviour to the size of the firm. However, it is unclear if this behaviour is a consequence of increased costs of monitoring (in large firms) or it just represents the synchronization of interests between the CEO and the shareholders (Linck et al., 2005).

Boards in Anglo-American countries typically use committees to provide oversight, and advice over different areas of an organization, including ethical

© 2023 Global Journals

behaviour, compensation, and audit. Audit committees provide the backbone for the compliance management by reviewing the working practices, at least the financial reporting practices within the organization. To this end, the committee acts as a control on the 'internal' audit team, which has a reporting structure to the executive (CFO) within the organization.

Historically, audit committees have taken an 'avuncular' role in the management of the organizations' governance practices. With the changed landscape, the committee's role has dramatically re-defined, with increased responsibility (Linck et al, 2005) placed on this committee and its chairman to oversee the management's governance program and practices. SOX regulations, requires audit committees to have increased independence in hiring and overseeing the organization's auditors. Likewise, the UK Combined Code on Corporate Governance (2015) states that "Audit Committees should bear more responsibility for internal controls and financial reporting, including monitoring the integrity of financial statements and recommending and reviewing outside auditors". While prior empirical research generally finds that the 'independent' audit committees do increase the monitoring capabilities of the board (Ribstein, 2005), there seems to be conflicting results on the resultant financial impact for the firm While Bryan and Lilien (2005) and DeFond et al (2004) attribute the improved earnings quality to the existence of independent audit committees, Ribstein (2005) finds that the degree of corporate director independence has had no influence in the firm's performance.

As a direct consequence of these regulations, the relationship with the management has altered, with the latter constantly looking at the committee with suspicion (suggesting 'holes' in the management's plan for governance). Corporate directors also individually face an increased personal legal exposure as a result of SOX and more rigorous workload especially in areas of audit committees and governance. They need to have more in-depth understanding of the business operations of the organization, with clear view of risk profile and risk management practice of the organization. Clieaf and Kelly (2005) recommend boards take increased direct responsibility for performing "accountability audit" and assessing the alignment of the organization structure with its existing capabilities. Charan (2005) calls such boards "progressive", in their thinking and actions. These boards come with the necessary skill set and the knowledge in the areas of governance and thus act as 'counter balance' to the management.

The UK Combined Code on Corporate Governance (FRC, 2015) requires boards to regularly monitor not only the management's performance, but their own performance too. However, similar Codes do not apply to many other European firms, due to the existence of dual supervisory and management boards. While promoting internal or supply side influence of people and organisation, they do not facilitate response to external or demand side influences in responding to regulatory change.

The importance of the audit committees in evaluating the internal controls and compliance programs of organizations and increasing oversight provided by the board in the areas of strategy formulation and development emerges as key findings from this section. The prior analysis suggests that a range of issues related to organisational design, compliance culture and corporate governance effectiveness, can influence the effectiveness of compliance management.

IV. Development of Hypotheses

The prior analysis suggests that high level IT management issues, organisational design, people management and corporate governance and internal control effectiveness can influence IT expenditure as well as compliance management. We first discuss how IT audit compliance strategy can be adopted by firms to establish an effective IT governance model. We then develop predictions concerning management's engagement in defining the compliance management system, be it earnings, or value, or cash flow, have a bearing in the quality of internal controls. The predictions imply that management/board's role in organisational strategy and compliance management strategy has a direct bearing on the compliance unit's performance (that holds the key to creating & managing a sustainable compliance program), and ultimately the effectiveness of the compliance management program itself.

a) IT Strategy

Given the underlying need of these compliance IT audit programs (Section 3.2), there is an implicit requirement imposed to having an effective underlying IT infrastructure – including availability of adequate controls in the infrastructure to prevent any misuse. Further, due to the increased usage of IT in a firm's operations, the (impact of the) risks related to IT infrastructure failure has become a key component in the organization's overall risk and compliance IT audit programs. To manage this risk introduced by the IT component, organizations have been looking to reduce the complexity surrounding the IT systems, thereby creating the need for an effective IT Governance platform[2].

While there are multitude of solutions proposed by different IT vendors to managing compliance IT audit programs (or parts of compliance activity), there seems

[2] Information Systems Audit and Control Association (ISACA), "*IS AUDITING GUIDELINE: IT GOVERNANCE (Document g18"), 2002,* http://www.isaca.org/ContentManagement/ContentDisplay.cfm?ContentID=18562

© 2023 Global Journals

to be a common theme on how organizations should structure their IT investments, to move to a sustainable compliance program. The key theme repeated in these industry journals relates to the need for the IT infrastructure re-usability in supporting the requirements of various regulatory requirements, the starting point for which would be for organizations to evaluate the common requirements amongst these IT audit programs. In this context, the compliance IT audit programs looked at by this paper have the following key IT considerations, (a) *Identity Management & Access Control (b) Content & Records Management* (c) *Risk & Reporting Management (d) Data & Process Management.* In addition, having an IT infrastructure that provides for a 'consolidated' ERP system with '*business continuity*' provisions is considered crucial for sustainability.

Boards in most firms have historically not considered IT as a key enabler in growth and transformation (blaming the high failure rate of IT projects, and the lack of measurement techniques to measure IT's value to the organization), pushing the topic (IT) out of the strategic picture for the firm. This view seems to have changed recently with the ITGI paper[3] providing evidence of the growing shift away from the above opinion. The survey of the Fortune 500 companies on the board's view on the importance of IT and their need to govern IT, suggests a trend of boards taking a more active role in the IT Governance program of the organization. The move has also been quickened in banks that are subject to the Basel II requirements, which hold the board member to be accountable for IT operational failures[4].

The above predictions clearly point to the critical role played by IT within organizations in their drive to comply with different regulatory requirements. In addition, they refer to the identification of the common IT considerations for the compliance IT audit programs as a key step in building the underlying IT infrastructure. In selecting and implementing these solutions, the IT management plays a critical role. While there seems to be a growing trend in the board's involvement in providing increased oversight on IT strategy, majority of the firms still have their IT strategy driven by the executive management. While there are multiple IT Governance frameworks available in the market, studies point to the trend that favours combining these frameworks when implementing these within organizations.

b) Compliance Management Implications on Compliance IT Audit Programs

The prior analysis suggests that high level information management issues, organisational design, people management and corporate governance and internal control effectiveness can influence expenditure as well as compliance management. Given the underlying need of these compliance programs there is an implicit requirement imposed to having an effective underlying information management infrastructure – including availability of adequate controls in the infrastructure to prevent any misuse. Due to the increased usage of information systems in a firm's operations, the (impact of the) risks related to infrastructure failure has become a key component in the organization's overall risk and compliance programs. To manage this risk introduced by the information systems component, organizations have been looking to reduce the complexity surrounding these systems, thereby creating the need for an effective information governance platform[5].

c) Risk Management Implications on Compliance Programs

Recent corporate innovations in risk management and insurance products for capital raising by financial and non financial firms have effectively bypassed those required in accounting rules by permitting firms to transfer capital at risk from retained to transferable sources. The risk management process of any firm will be targeted at those decision variables that affect at least one dimension of the firm's financial condition. However these choices are also endogenous with the regulatory structure. Our analysis of the effectiveness of organisational compliance business unit programs indicates that a firm is likely to be subject to a range of differing corporate governance control and/or industry environments. Culp (2001, 188) proposes that despite the interconnections between a firms' value, earnings and cash flows, these three alternative measures of a firm's financial condition can be quite different when viewed as strategic variables.

Theories that explain why the value of the firms can be increased by risk management depend on whether the focus of compliance is on value, cash flows on earnings. Several of the theories of risk management presuppose that the risk management process of a firm is aimed at controlling the value of the firm, or more specifically, the market value of its assets and liabilities. Jensen and Meckling (1976) argue that value risk manager is then concerned about the value of the firm, either at a specific point of time, or over regular intervals. By contrast, a cash flow risk manager is concerned with the cash flows whenever they might occur. The Froot et

[3] IT Governance Institute (ITGI), "*IT Governance Executive Summary*" ("seven of eight boards are at least regularly informed about IT issues, while six of 10 boards approve IT strategy, half of them having an IT strategy Committee").

[4] Kennan, Paddy, (2003),Computer Weekly 9/16/2003, p40-40

[5] Information Systems Audit and Control Association (ISACA), "*IS Auditing Guideline (Document g18"), 2002,* http://www.isaca.org/ContentManagement/ContentDisplay.cfm?ContentID=18562

© 2023 Global Journals

al. (1994) underinvestment theory and the Jensen (1986) agency cost of free cash flow analysis can explain why some firms engage in cash flow risk management. Finally, the firm's risk management process could focus on earnings management. This may occur where there is a relationship between the firm manager's own expected utility of wealth, his or her pay, and that value of the firm. Smith and Stulz (1985) imply that the compensation for a manager may dictate his or her preference for hedging. By tying the compensation packages of their managers to accounting earnings rather than to the value of the firm. A manager paid based on accounting earnings will respond accordingly and will choose to hedge accounting earnings. We posit that banks and financial institutions primarily concerned with risk managing their financial position, defined in terms of the quality of their assets and liabilities. By contrast, we consider that UK firms are primarily concerned with managing their earnings. Finally, we assume that non-UK firms are more oriented towards debt capital and therefore are concerned with cash flows than with their earnings volatility.

V. Methods, Data and Results

This section overviews the sample selection procedures used, and report the design of the industry survey, as the first step in identifying the various 'influencers' of the compliance program. Then, we report the empirical findings from the archival data survey analysis of the quality of internal control departments responsible for monitoring compliance.

a) Sample Selection Procedures

We studied the internal control department quality of sample of large UK and Continental European firms that either had SOX as one of the compliance requirements and/or were subject to intense industry-based regulation of their operational risk controls (i.e., financial service firms). The survey focused initially on the top 600 European firms identified by the Department of Trade and Industry in its annual value added scoreboard (www.dti.innovation.gov.uk/). Of these, only 320 firms were fully listed on the stock exchange and had been in continuous existence on the value added scorecard for each of the preceding five years (i.e. prior to the Enron bankruptcy and the consequent implycations for corporate governance, earnings quality and subsequent SOX legislation was enacted). This procedure resulted in a final sample of 79 firms for which complete information was available.

b) Survey Questionnaire

We conducted an industry-wide survey that targeted UK and Continental European firms that either had SOX as one of the compliance requirements and/or were subject to intense industry-based regulation of their operational risk controls (i.e., financial service versus industrial firms). Twenty-seven sample firms had an US stock cross listing. These firms also had to have at the least one another compliance program listed in Table 1 to provide for a valid test case for sustainable compliance management. The paper originally proposed to a mix European and US firms' participation in this survey, to provide a broader representation on the business compliance programs.

The survey comprised four sections. Section one relates to the firm's implementation experiences of SOX. Section two identifies which factors ('influencers') are the most important for effective and efficient compliance management. Section three deals with the surveyed firms' perspective on the importance of the IT infrastructure and the Process Management practice with regards to compliance management. Section four relates to the measurement of compliance programs progress. The survey identified features of the internal control department that are affected by the new compliance environment, ranging from the size of the internal control department, the number of qualified staff, the extent of training, the corporate governance accountability links, and the frequency of internal control checks. Additional SOX compliance questions based on the interview were also included for those firms cross-listed on US stock exchanges.

c) Descriptive Statistics

Table 2 reports the descriptive statistics for the sample. There was a 25% response rate. Analysis of the population of non-respondents relative to the respondent samples indicated no significant differences in profitability, gearing or sales turnover.

© 2023 Global Journals

Table 1: Summary Statistics for Selected Firm Characteristics

Survey of Internal Control systems

	Non-UK Companies		UK Companies		Two-Sample t-Value
	Mean	Std Dev	Mean	Std Dev	
Long-termdebt	30109.00	119084	7839	18835	1.307
Assets	150793	397596	79322	224096	1.028
Market-to-bk	2.140	2.211	8.052	15.258	-2.074**
ROA	0.338	1.602	0.115	0.129	0.987
ROE	0.180	0.111	0.324	0.580	-1.730*
Sales	27083	34859	10744	14554	2.927**
IASize	0.021	0.139	0.001	0.001	1.013
IAQualify	0.413	0.362	0.611	0.313	-2.459**
IAExp	0.616	0.367	0.624	0.325	-0.012
IAgrow	39.37	81.36	1.93	76.13	2.062**
IAtrainquality	3.43	1.700	3.97	1.59	-1.419

Table Notes: UK is a dummy variable set to 1 if UK, 0 otherwise; Asset is total assets of firm as at 2006 (compustat #89); MB is the ratio of market to book (compustat #135); ROA is ratio of income before taxes over total assets, averaged for three years ended 2006 (compustat #21/#89); ROE is ratio of income before taxes over total shareholders equity, averaged for three years ended 2004 (compustat #21/#135); VAS is value added scorecard per DTI, averaged for three years ended 2004; IA size is ratio of number of IA staff to total number of company staff (survey question 12/question 7); IAqual is ratio of number of IA staff with accounting qualifications over total size of IA (survey question 13i/12); IA exp is ratio of number of experienced IA staff to number of IA staff (survey question 13ii/12); IA growth is difference between number of IA staff in 2006 compared to 2003, divided by number of IA staff on average (survey question 15-question 12/ave); IA quality is self-assessed effectiveness on a likert scale of 1 to 6 (survey question 16); SOX is dummy variable set to 1 if NYSE cross listed and thus subject to SOX, 0 otherwise; financial is dummy variable set to 1 if financial firm, zero otherwise

a. %Equity is defined as the percentage of total invested fund assets invested in stocks and shares.

* Significant at 0.10 level

** Significant at 0.05 level

***Significant at 0.01 level

Of the 79 firms that responded to the survey, 29 were UK companies and were separately analysed. There were also 27 firms which were subject to US listing and responded to the SOX questions. Finally, there were 20 financial firms. Various stock and flow financial characteristics were modelled to explain the cross-sectional relationship between internal audit control quality and firms risk management policies. These included long term debt, assets, sales, and return on assets, which are generally higher for non-UK firms than for UK firms. By contrast, UK firms exhibit higher market-to-book ratios, higher return on equity.

Table 2 also reports the key characteristics of internal control departments. UK internal control departments tend to be lower, but more highly qualified and experienced staff, and are more likely to benefit from training programmes. However, they are growing more slowly than non-UK firms. These findings highlight the importance of institutional and cultural influences on the quality of the internal control departments that monitor the effectiveness and sustainability of regulatory compliance programs.

d) Empirical Tests

This section reports the results of empirical tests of factors affecting investment in sustainable compliance programs by multinational firms, through investment in high quality internal control departments as developed in section 3 and 4, and based on the survey data outlined in section 5. If there were no association between the level and nature of compliance control department expenditures and either firm (demand-side) or regulatory (supply-side) characteristics, then we would not expect any meaningful relationship between overall corporate risk management policy (i.e. managing the volatility of cash flows and/or earnings) and the quality of the internal audit departments. On the other hand, if there was an established empirical relationship with only supply-side (demand-side) characteristics, our predictions would be supported.

e) Correlation among Variables

Multivariate tests of the propositions first require tests of the correlations among the independent variables, and these are reported in Table 2. Assets and long-term debt are highly correlated, as are ROE with market to book. Further tests (not reported) reveal that, for UK firms, there is an association between these financial characteristics and the level of investment in internal control departments. However the internal control department control variables are not highly correlated with each other and with financial characteristics of the sub-sample continental European firms.

© 2023 Global Journals

Table 2: Correlations Among Independent Variables

	UK	LTD	Assets	MB	ROA	ROE	Audit	IAsize	IAqual	IAexp	IAGrow	IATrain	SOX	Financial
UK	1	-0.112	-0.100	0.295**	-0.084	0.192	-0.086	-0.086	0.268*	0.011	0.223*	0.155	0.122	0.045
LTD	-0.112	1	0.799***	-0.047	-0.043	-0.040	-0.020	-0.015	0.018	-0.009	-0.062	0.027	-0.080	0.335**
Asset	-0.100	0.799**	1	-0.086	-0.070	-0.072	-0.036	-0.031	0.001	0.030	-0.031	0.026	0.053	0.572**
MB	0.295*	-0.047	-0.086	1	-0.040	0.228**	-0.033	-0.035	0.050	0.018	-0.068	0.005	-0.074	0.169
ROA	-0.084	-0.043	-0.070	-0.040	1	-0.018	-0.012	-0.006	-0.156	-0.172	0.201	-0.112	-0.084	0.149
ROE	0.192	0.040	-0.072	0.228*	-0.018	1	-0.007	-0.036	-0.101	-0.162	-0.325**	0.104	-0.088	-0.174
Audit	-0.086	-0.020	-0.036	-0.033	-0.012	-0.007	1	-0.012	0.004	0.122	-0.032	0.093	-0.080	-0.065
IAsize	-0.086	-0.015	-0.031	-0.035	-0.006	-0.036	-0.012	1	-0.155	-0.039	0.059	0.097	-0.080	0.056
IAqual	0.268	0.018	0.001	0.050	-0.156	-0.101	0.004	-0.155	1	0.557**	0.264*	0.069	0.044	0.071
IAexp	0.011	-0.009	0.030	0.018	-0.172	-0.162	0.122	-0.039	0.557**	1	0.307**	0.093	0.082	0.032
IAgrow	-0.223*	-0.062	-0.031	-0.068	0.201	-0.325**	-0.032	0.059	0.264*	0.307**	1	-0.012	-0.014	0.027
IAtrain	0.155	0.027	0.026	0.005	-0.112	0.104	0.093	0.097	0.069	0.093	-0.012	1	0.210	0.131
SOX	0.122	-0.080	0.053	-0.074	-0.084	-0.088	-0.080	-0.080	0.044	0.082	-0.014	0.210	1	0.015
Financial	0.045	0.335**	0.572**	0.169	0.149	-0.174	-0.065	-0.056	0.071	0.032	0.027	0.131	0.015	1

the ratio of market to book (compustat #135); ROA is ratio of income before taxes over total assets, averaged for four years ended 2005 (compustat #21/#89); ROE is ratio of income before taxes over total shareholders equity, averaged for three years ended 2004 (compustat #21/#135); Audit is audit fees, averaged for the four years ended 2005; IA size is ratio of number of IA staff to total number of company staff (survey question 12/question 7); IAqual is ratio of number of IA staff with accounting qualifications over total size of IA (survey question 13i/12); IA exp is ratio of number of experienced IA staff to number of IA staff (survey question 13ii/12); IA growth is difference between number of IA staff in 2005 compared to 2002, divided by number of IA staff on average (survey question 15-question 12/ave); IA quality is self-assessed effectiveness on a likert scale of 1 to 6 (survey question 16); SOX is dummy variable set to 1 if NYSE cross listed and thus subject to SOX, 0 otherwise; financial is dummy variable set to 1 if financial firm, zero otherwise

Relation to Firm Performance: The propositions developed in section 3 also assume that there is an association between firm reported performance, and the extent of compliance costs incurred. Table 3 reports an OLS regression that establishes the inter-relationship between demand and supply characteristics of the European firms, where performance is determined either by reference to return on assets, return on equity or by reference to the Tobin's Q measure. This establishes whether a prima-facie empirical justification can be made for relating firm performance with the extent of compliance cost expenditure (based on various qualitative characteristics). The evidence reported in table 3 suggests that there is an association between return on assets and the size of the European firms. There is also a positive association between return on assets and the growth of internal control department expenditures over time. Finally there is a positive association between return on assets and whether the firm is financial. Thus it is important to control for the impact on firm performance of industry characteristics. Results of the other performance regressions are less equivocal. For the Return on Equity regression however, there is no significant statistical association between ROE and these variables, except again for internal control department control growth rate. For the Tobin's Q measure, there is only a marginal relationship between Tobin's Q and whether the firm is financial and based in the UK. These tests imply that there is only a limited relationship between a firm's reported performance and various demand and supply characteristics used to infer their relationships between compliance cost expenditures.

© 2023 Global Journals

Table 3: Ordinary Least Squares Regressions of Performance Determinants

	Predicted sign	ROA	ROE	TobinsQ
Intercept	?	3.116***	0.451**	4.547
Long-termdebt	+	0.000	0.000	0.000
LNAssets	+	-0.315***	-0.031	-0.269
IASize	+	-0.146	-0.139	-0.743
IAQualify	+	-0.526	-0.034	-1.964
IAExp	+	-0.543	-0.057	1.858
IAgrow	+	0.005***	-0.001**	-0.001
IAtrainquality	+	0.020	0.041	-0.167
SOX	+	0.149	-0.073	-2.112
Financial	+	1.455***	-0.075	5.028*
UK	+	-0.047	0.098	6.184**
F-statistic		3.506**	1.805	1.108
Adj R-squared		0.241	0.092	0.014

Table Notes: UK is a dummy variable set to 1 if UK, 0 otherwise; Asset is total assets of firm as at 2004 (compustat #89); MB is the ratio of market to book (compustat #135); ROA is ratio of income before taxes over total assets, averaged for three years ended 2004 (compustat #21/#89); ROE is ratio of income before taxes over total shareholders equity, averaged for three years ended 2004 (compustat #21/#135);; IA size is ratio of number of IA staff to total number of company staff (survey question 12/question 7); IAqual is ratio of number of IA staff with accounting qualifications over total size of IA (survey question 13i/12); IA exp is ratio of number of experienced IA staff to number of IA staff (survey question 13ii/12); IA growth is difference between number of IA staff in 2005 compared to 2002, divided by number of IA staff on average (survey question 15-question 12/ave); IA quality is self-assessed effectiveness on a likert scale of 1 to 6 (survey question 16); SOX is dummy variable set to 1 if NYSE cross listed and thus subject to SOX, 0 otherwise; financial is dummy variable set to 1 if financial firm, zero otherwise.

** Significant at 0.10 level*

*** Significant at 0.05 level*

****Significant at 0.01 level*

f) Multivariate Tests

We conduct both logistic and OLS regressions of the strength of relationship between internal control expenditures and various demand and supply characteristics of European firms. We first make a crude assumption is that there is likely to be some form of relationship between the European firm's overall strategic decision about the extent to which their property rights over the international credibility of their compliance costs is 'sacrificed' to political economy considerations (i.e. whether the firm is based in the UK, complies with SOX or is a more regulated financial firm) and the relevant supply and demand characteristics. Table 4 reports the results of a logistical regression used to regresses the supply side drivers of compliance cost expenditures, which are attributed to take the form of various internal control compliance quality proxies, against various regulatory or cultural variables associated with UK versus non UK; interaction variables are also developed for political economy influencers, such as SOX versus non SOX compliant and financial versus non-financial. For the UK model, there is a significant association between the propensity to be based in the UK (and hence investor-oriented, which is analogous to that implied by proposition 2), and both the size and qualifications of the internal control department. There is also a positive relationship with leverage. By contrast, the results of the other logistic regressions concerning the relationship between the overall strategic decision concerning property rights and SOX compliance are more equivocal. For the SOX compliance regression, the propensity of European firms to be SOX compliant is related only to firm size, leverage and the quality of training undertaken by internal control staff. Hence there is only limited support for the predicted association for this regression. There is no association between being a financial firm and either supply or demand characteristic. Thus the hypothesized relationships require some further sensitivity checks.

© 2023 Global Journals

Table 4: Logistic Regression of Effect of Internal Control on Corporate Governance Status (where 1 = Corporate Governance Status; 0 Otherwise)

	Predicted sign	UK (n =29)	SOX (n = 27)	Financial (n =20)
Intercept	?	-1.939*	-1.344	-291.75
Long-termdebt	+	0.001*	0.001**	0.003
LNAssets	+	0.001	0.001**	0.001
TobinsQ		0.272*	-0.006	5.672
ROA		-21.590**	-0.008	21.84
ROE		13.338*	-1.322	-578.53
Audit		0.000	0.000	0.001
IASize	+	-272.17	-261.17	111.05
IAQualify	+	3.212**	-0.230	81.57
IAExp	+	-2.017	-0.009	220.13
IAgrow	+	-0.008	-0.003	0.036
IAtrainquality	+	0.216	0.421**	17.918
Chisq-statistic		38.945	18.078	89.974
Adj R-squared Cox and Snell		0.385	0.202	0.675

Table Notes: UK is a dummy variable set to 1 if UK, 0 otherwise; Asset is total assets of firm as at 2005 (compustat #89); MB is the ratio of market to book (compustat #135); ROA is ratio of income before taxes over total assets, averaged for three years ended 2004 (compustat #21/#89); ROE is ratio of income before taxes over total shareholders equity, averaged for three years ended 2004 (compustat #21/#135); VAS is audit fee, averaged for four years ended 2005; IA size is ratio of number of IA staff to total number of company staff (survey question 12/question 7); IAqual is ratio of number of IA staff with accounting qualifications over total size of IA (survey question 13i/12); IA exp is ratio of number of experienced IA staff to number of IA staff (survey question 13ii/12); IA growth is difference between number of IA staff in 2005 compared to 2002, divided by number of IA staff on average (survey question 15-question 12/ave); IA quality is self-assessed effectiveness on a likert scale of 1 to 6 (survey question 16); SOX is dummy variable set to 1 if NYSE cross listed and thus subject to SOX, 0 otherwise; financial is dummy variable set to 1 if financial firm, zero otherwise

** Significant at 0.10 level** Significant at 0.05 level ***Significant at 0.01 level*

Table 5: Ordinary Least Squares Regressions of Value at Risk Determinants

	Predicted Sign	Earnings at Risk (UK=1)	Cash Flow at Risk (Europe=1)	Asset-liability at Risk (Financial =1)
Intercept	?	0.019	-45.11	0.034
IASize	-	-167.62*	66.80	-984.0***
IAQualify	+	0.273	2527.7*	2.685
IAExp	+	0.299	-149.0	8.671***
IAgrow	+	0.001	-1.455	0.025*
IAtrainquality	+	0.119**	-140.08	-0.366
Sales	+	0.000**	-0.002	0.001
LTD	+	0.000***	-0.002	0.001
StafSal	+	0.000	0.394*	-0.001
Penx	-	-0.006*	-1.302	0.016***
RD	+	0.001***	-0.539	na
Audit	-	-0.078**	-0.050	-0.105
Operating inc		Na	Na	-0.002*
F-statistic		9.600**	1.295	4.070***
Adj R-squared		0.545	0.040	0.300

Table Notes: UK is a dummy variable set to 1 if UK, 0 otherwise; Europe is a dummary variable set to 1 if Europe, 0 otherwise; financial is a dummy variable set to 1 if financial firm, zero otherwise; Earnings at risk is standard deviation of reported EPS for four years; Cash flow at risk is standard deviation of net cash for four years; Asset-liability at risk is the standard deviation of capital position ratio for last four years ; IA size is ratio of number of IA staff to total number of company staff (survey question 12/question 7); IAqual is ratio of number of IA staff with accounting qualifications over total size of IA (survey question 13i/12); IA exp is ratio of number of experienced IA staff to number of IA staff (survey question 13ii/12); IA growth is difference between number of IA staff in 2005 compared to 2002, divided by number of IA staff on average (survey question 15-question 12/ave); IA quality is self-assessed effectiveness on a likert scale of 1 to 6 (survey question 16); SOX is dummy variable set to 1 if NYSE cross listed and thus subject to SOX, 0 otherwise; financial is dummy variable set to 1 if financial firm, zero otherwise

** Significant at 0.10 level*
*** Significant at 0.05 level*
****Significant at 0.01 level*

© 2023 Global Journals

g) Sensitivity Tests

To test the robustness of the results concerning tentative support for proposition 2 based on the crude proxies for international credibility using logistic regression reported in table 8, we alternatively make the assumption that the propensity to expend compliance costs is primarily associated with the desire to smooth earnings. However the results of table 4 imply that there is only a limited relationship between these variables, and thus is likely to be mitigated by the jurisdiction and/or industry in which the firm is based. We therefore decompose the sample into three sub-samples; (a) UK industrial firms (n = 29), (b) European industrial firms (n = 27) and (c) financial firms (n=20). We then conduct tests to infer whether the level of compliance cost expenditure, as proxies by various qualitative characteristics associated with their investment in internal control departments, is associated with the desire by these sub-samples of firms to smooth income, cash flow or asset/liability, respectively. Table 5 regresses various supply side shifters against earnings, cash flow and asset-liability at risk measures (proxies as the standard deviation of return of each of these values for the sample European firms).

The earnings at risk regression results imply that the desire for UK firms to gain international credibility through smoothing earnings appears to be negatively associated with the size of the audit department, but positively associated with the training quality. Additionally, after controlling for other factors, there is also a negative association between earnings at risk with supply drivers' compliance costs. Finally there is a positive association between earnings at risk and the level of R&D expenditures. The overall model is also significant and explains 54% of the total variation. The results for the cash flow at risk OLS regression model are more equivocal for non-UK European firms. Except for the qualifications of the internal control department, there is no statistically significant association between cash flow at risk and internal control department quality. The overall model is also not statistically significant. Finally, the asset-liability at risk proposition is supported by the model shown for financial European firms. There is appositive statistical significance between internal audit experience and asset liability at risk, and a negative association with the size of the internal control department. The overall model is also statistically significant.

h) Robustness Tests

In order to corroborate the above findings and also validate our predictions, further tests were undertaken of the resilience of the above results for the sub-sample of 59 firms that continued operations a decade after the initial tests reported in tables 3-5 were conducted. The purpose of the robustness tests were to establish a connection between long-term value added per employee and the quality of the business compliance unit as measured above. The empirical tests examined the strength of the association between value added per employee and business compliance unit quality (as measured above) after controlling for a range of other factors (e.g. environmental society and governance scores; risk management disclosure scores; SOX compliance and financial industry dummy variables). Table 6 shows the results.

Table 6: Robustness Checks: Ordinary Least Squares Regressions of Value Added per Employee for Surviving Firms (n=59)

	Predicted Sign	
Intercept	?	-0.335
Financial firm dummy	+	0.373
Risk disclosure quality score	+	0.004
ESG score	+	0.002
Business Compliance unit quality	+	+0.557**
Earnings at risk	-	-0.002
SOX dummy variable	-	-0.303
Operating inc		Na
F-statistic		3.02**
Adj R-squared		0.109

Table Notes: This table reports the results of regressing value added per employee for the 59 firms that survived for 10 years after the initial tests reported in Table 9 ({i.e. as at financial reporting year ended 30 June 2015). Financial is a dummy variable set to 1 if financial firm, zero otherwise; Earnings at risk is standard deviation of reported EPS for four years; SOX is dummy variable set to 1 if NYSE cross listed and thus subject to SOX, 0 otherwise; financial is dummy variable set to 1 if financial firm, zero otherwise; Business compliance unit quality is a dummy variable indicating whether the internal control department is regulatory compliant or otherwise; ESG Score is thRepRisk (RRI) score latest as reported by ORBIS for the latest reporting year; Risk disclosure quality score is the FOG index score for the firm related to the risk management reporting in the latest annual accounts.

* Significant at 0.10 level

** Significant at 0.05 level

***Significant at 0.01 level

© 2023 Global Journals

Value added per employee is positively and statistically significantly related to overall business compliance unit quality, even after controlling for other other governance, compliance level and disclosure quality measures outlined above. These results affirm that the ability of sample firms to generate value added per employee is associated with their investment in sustainable compliance of organisations with various information and governance requirements, as proxied by the quality of the business compliance control unit.

VI. Conclusion

Prior literatures on the organisational challenges and information systems strategy implications of regulatory compliance issues post-Enron has focused on the corporate governance, and business compliance implications of these changes as if they were independently determined. This study is the first to explicitly recognise the inter-disciplinary inter-relationships by investigating the contributing factors that potentially influence the quality of information management strategy, and internal audit functions of management that are responsible for monitoring compliance programs within organizations within a multi-disciplinary framework that draws on information systems, regulation, management and auditing disciplines. Specifically, we examine the sustainability of regulatory compliance programs by exploring the strength of relationship between corporate risk management policies, as proxied by the desire to smooth income and/or cash flows, and the quality of the internal control departments responsible to monitor their effectiveness. Our study focuses on multinational European firms that are subject to both national and international factors, as well as country specific influencers on these policies.

Our investigation of these supply and demand side influencers broadly centres is based on a survey of best practices across a broad cross-section of sample European firms, in three main areas – Board/Management influence, information management strategy and organization design (including people, process, structure). The qualitative comparison of the 'influencers' from the industry survey against the literature reviews found culture and training, as the most crucial elements for organizations looking to build sustainable compliance IT programs. While organization culture was rated as crucial for the compliance management in the case studies, there were no suggestions in the broader survey on the usage of incentives to affect this employee behaviour towards compliance, which is contrary to proposals from Hartman (2000) and industry findings [CEB (2004)]. Firms instead try to leverage the standard processes in achieving compliance supported by regular training provided to the process owners and employees, via the e-learning platform within these firms. While all the surveyed firms had an infrastructure to train employees on ethical behaviour, there were no indications of an overarching umbrella programme that linked compliance and ethics in any of these organizations, running contrary to proposals discussed in the literature [Hartman (2000), Anstead (1999)].

By examining the association between alternative forms of risk management strategy and regulatory compliance business unit quality, the survey of European firms corroborated the inter-relationship between supply side and demand-side influencers', which firms consider to be critical for managing their compliance programs. The results support the hypothesis that UK firms' internal audit control department quality is associated with earnings at risk strategy. Financial firms' regulatory compliance business unit quality is also associated with asset-liability at risk. However no statistically significant relationship is found with cash flow at risk faced by Continental European firms. We further find that surviving firms subsequently exhibited a positive and statistically significant relationship between the quality of their internal control department and value added per employee.

The board and management's influence on compliance programs sustainability is an area that needs further research. Our results were limited to examining indirectly the cultural/institutional setting which effectively drives board composition. Future research could focus greater attention to the 'supply side' explanatory variables that influence the sustainable compliance program. While this paper tries to capture elements of the non-information systems management factors that influence the sustainability of compliance programs, there might be an opportunity to research on additional variables, especially within the organization context, including, 'middle' management's influence, globalisation of the business and the consequent social implications to compliance program management.

The results of our analysis should be treated with extreme caution for a number of reasons. First, the literature seeking to identify and explore various factors affecting the sustainability of regulatory compliance programs and their connection with broader information management strategy, operational risk management is not well developed. Second, the survey evidence used to garner evidence on the implementation of these policies are subject to the limitations of sample selection and statistical inference. Third, our analysis and inferences from our results was restricted to European multinational firms that were faced with an uncertain and changing multinational regulatory environment. Finally, our empirical evidence on the relationship between the quality of internal control departments and corporate risk cash flow and income smoothing policies is based on the implied assumption that these proxy for the broader relationship between the sustainability of regulatory

© 2023 Global Journals

compliance programs and overall risk management effectiveness.

Notwithstanding these caveats, our research on regulatory compliance programs can be extended in a number of directions. Extending the coverage of this compliance programs to include the ones from Japan and Asia Pacific countries will provide a 'global' perspective of those programs with common threads of requirement. This might result in increased explanatory variables being identified and analysed, making the scope much broader.

References Références Referencias

1. Allman, T. (2005), "Fostering a Compliance Culture: The role of Sedona Guidelines", *Information Management Journal*, 2-12.
2. Anderson D A (1999), "The Aggregate Burden of Crime", *Journal of Law and Economics* 42: 611-618.
3. Arping, S., Z. Sautner (2013) Did SOX Section 404 Make Firms Less Opaque? Evidence from Cross-Listed Firms. *Contemporary Accounting Research*. 30 (3): 1133-1165.
4. Benston, G. (2006). "Regulatory failure at Enron". *Journal of Accounting and Public Policy* 25 (1): 1-50.
5. Berger, A. (2005). "The Impact of Sarbanes-Oxley on Cross-listed Companies" *Mimeo*.
6. Bertsch K, (2005), "How Moody's Assesses Corporate Governance", *The Corporate Governance Advisor*.
7. Bianconi, M., R. Chen, & J. Yoshino. (2013) Firm value, the Sarbanes-Oxley Act and crosslisting in the U.S., Germany and Hong Kong destinations. *North American Journal of Economics and Finance.* 24: 25-44.
8. Bryan, S. H. and Lilien, S. B., (2005), "Characteristics of Firms with Material Weaknesses in Internal Control: An Assessment of Section 404 of Sarbanes Oxley", *Mimeo*.
9. Carcello, J., D. Hermanson, and Z. Ye. (2011) Corporate Governance Research in Accounting and Auditing: Insights, Practice Implications, and Future Research Directions. *Auditing: A Journal of Practice & Theory*. 30 (3): 1-31.
10. CEB Inc. (2004*),* "Institutionalizing Vigilance"*, Controllers' Leadership Roundtable, Strategic Research*. NewYork: CEB.
11. Charan R. (2005), "*Boards That Deliver: Advancing Corporate Governance From Compliance to Competitive Advantage".* Mimeo.
12. Chhaochharia V. & Grinstein Y. (2005), "*Corporate Governance and Firm Value – The Impact of the 2002 Governance Rules".* Mimeo.
13. Clieaf Van, M. and Kelly L. J. (2005), "The New DNA of Corporate Governance: Strategic Pay for Future Value" *Corporate Governance Advisor*, 13: 3-10.
14. Cohen, D. A., Dey, A. and Lys, T., (2005), "*The Sarbanes Oxley Act of 2002: Implications for Compensation Structure and Risk-Taking Incentives of CEO's*" mimeo.
15. Culp, C. 2001., "*The Risk Management Process - Business Strategy and Tactics"*, Wiley: New York.
16. Damania, R., P. G. Fredriksson and M. Muthukamara (2004). "The Persistence of Corruption and Regulatory Compliance Failures: Theory and Evidence". *Public Choice* 121: 363-390.
17. Davenport, T. H., (2005), "The Coming Commoditization of Processes*", Harvard Business Review.*
18. Datar S., and, Alles M., (2003) "How Do you Stop the Books from Being Cooked? A Management Control Perspective on Financial Accounting Standard Setting and the Section 404 Requirement of the Sarbanes/Oxley Act*". Mimeo*.
19. DeFond, Mark L., Hann, Rebecca N. and Hu, Xuesong, (2004) "Does the Market Value Financial Expertise on Audit Committees of Boards of Directors?" *Mimeo.*
20. Eisenberg M., (1997), "The Board of Directors and Internal Controls*", Cardozo Law Review*, 19 (2): 10.
21. Emmitt, M. (1993), "Federal Sentencing Guidelines for Organizational Defendants", 46 *Vanderbilt Law Review*. 197,198-99.
22. Fama, E. F., and Jensen M. C., (1983), "Separation of ownership and control*", Journal of Law and Economics* 26, 301-325.
23. Financial Reporting Council (2015). *Corporate Governance Codes Revisions: Guidance on Risk Management*. London: FRC.
24. Froot, K. A., D. S. Scharfstein and J.C. Stein. 1994. "Risk Management: Coordinating Investment and Financing Policies", *Journal of Political Economy*, 56, 279-304.
25. Goergen, M. (2012). "The Legal Aspects", in M. Goergen, C. Mallin, E. Mitleton-Kelly, A. Al-Hawamdeh and I. H-Y Chiu eds., *Corporate Governance and Complexity Theory.* Edward Elgar: Cheltenham.
26. Gramling, A. A., M. J. Maletta, A. Schneider, and B. K. Church. 2004. The role of the internal audit function in corporate governance: A synthesis of extant internal auditing literature and directions for future research. *Journal of Accounting Literature*. 23: 194–224.
27. Hartman, L. P. (2000), "Compliance Versus. Integrity: The process of Ethics integration", *Journal of Employment Discrimination Law*; Spring, Vol 2: s2.
28. Heier, J. R., Dugan, M T. and Sayers, D. L., (2004), "*Sarbanes-Oxley and the Culmination of Internal Control Development: A Study of Reactive Evolution*". American Accounting Association 2004 Mid-Atlantic Region Meeting Paper.
29. Hermalin, B. E., and M. S. Weisbach, (2003), "Boards of directors as an endogenously

© 2023 Global Journals

determined institution: A survey of the economic evidence", *Economic Policy Review* 9, 7-26, 2003.
30. Jensen M, (1986), 'Agency Costs of Free Cash Flow, Corporate Finance and Takeovers', *American Economic Review*. 57: 2-10.
31. Jensen, M. C., (1998), "*Organization Theory and Methodology*". *Foundations of Organizational Strategy,* Harvard University Press.
32. Jensen, M. C. and W. H. Meckling (1976). "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure." *Journal of Financial Economics* 3 (4): 305-360.
33. Jiang, J. H. Aldewereld, V. Dignum, S. Wang and Z. Baida. (2015). "Regulatory Compliance of Business Processes". *AI and Society* 30: 393-402.
34. LaPorta, R., F. Lopez-de-Silanes and A. Shleifer (1999). "Corporate Ownership around the World", *Journal of Finance* 54 (2): 471-517.
35. Levine, D. (1997), "Reinventing Workplace Regulation", *California Management Review*, 39 (4): 101-108.
36. Linck J. (2005), "Effects and Unintended Consequences of the Sarbanes-Oxley Act on Corporate boards". *Mimeo.*
37. Litvak, K. (2007). The effect of the Sarbanes-Oxley Act on non-U.S. companies cross-listed in the U.S. *Journal of Corporate Finance*. 13: 195–228.
38. McKinsey (2017). *Sustainable Compliance: Seven Steps towards Effectiveness and efficiency*. New York: McKinsey.
39. Microfocus (2019). *Sustainable Compliance: How to Align Compliance, Security and Business Goals*. London: Microfocus.
40. Murphy D., (2002), "The Federal Sentencing Guidelines for Organizations: A Decade of Promoting Compliance and Ethics" *Iowa Law Review*, 87 (2) 2.
41. NetIQ (2016). *Sustainable Compliance: How to Align Compliance, Security and Business Goals*. London: NetIQ.
42. Raheja, C. G., (2005), "Determinants of board size and composition: A Theory of Corporate Boards", *Journal of Financial and Quantitative Analysis* 40 (2): 283-306.
43. Repenning, N. P. and Sterman, J., (2002), "*Capability Traps and Self-Confirming Attribution Errors in the Dynamics of Process Improvement*" (June 2002). MIT Sloan Working Paper No. 4372-02.
44. Rezaee Z. & Jain P., (2005), *The Sarbanes-Oxley Act of 2002 and Security Market Behaviour: Early Evidence*. *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=498083*
45. Ribstein L., (2005), "Sarbanes-Oxley After Three Years", *Illinois Law and Economics Working Papers Series*, Working Paper No. LE05-016.
46. Rountree, B., J. P. Weston and G. Allayayannis. (2008). "Do Investors Value Smooth Performance?" *Journal of Financial Economics* 90: 237-251.
47. Swingly, K. (2005). "Firms Cope with Compliance, Risk management Efforts", *Operations Management* 11: 21-5.

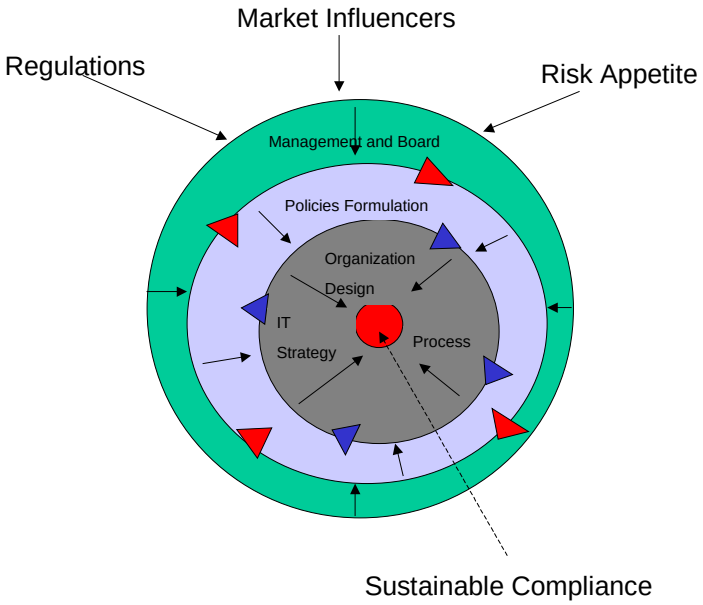


Figure 1: Complexity Theory Framework for Sustainable Compliance

© 2023 Global Journals

Appendix A

Survey Questionnaire

Section 1: SOX Implementation

1) What best describes your company's SOX compliance status?

- Completed year 1, working on year 2
- In the midst of Year 1 now
- Still to start year 1
- Not required to comply with SOX
- Other (Pls. Specify)

2) Which group/role leads the effort for SOX compliance today?

- CFO
- Chief Compliance Officer
- Controller
- Internal Audit
- IT
- Business Unit Management
- Other (Pls. Specify)

3) What were the significant cost elements that you incurred to fulfilling the SOX compliance obligations? (Rate 1-6, 1 being the most expensive).

- Auditor fees
- External consultant fees
- IT System purchase fees
- IT System implementation fees
- Consulting (internal/external) Resources fees
- Internal Process change/alignment costs
- Other (Pls. Specify)

4) Is the SOX compliance effort managed by the same team running the Risk Management program in your company?

- Yes
- No

5) Do you consider the SOX requirements while managing the overall Risk Program in your organization?

- Yes
- No

6) Do you re-use the resources between the risk management program and SOX program? (Select multiple options as applicable)

- Audit Personnel
- Process design
- Internal Controls design
- IT Systems (Pls. Specify)
- Others (Pls. Specify)

Section 2: Compliance Programs – Influencers

7) Please state the 'Mandatory' compliance programs you're company needs to fulfil

- Financial Regulatory programs (e.g.) Sarbanes-Oxley, FASB/IAS
- Privacy regulations (e.g.) EU directive, industry specific regulations
- Health and Safety regulations
- Other (Pls. Specify)

8) What areas do you consider critical when looking to improve the cost effectiveness in fulfilling the compliance obligations? (Pls. Rate 1-6, 1 being the most critical)

- IT/Technology improvements/investments
- Organization Culture
- Employee Training and Development
- Process Standardization and Consistency
- Strategy Formulation process
- Management structure (e.g.) CIO, Chief Compliance Officer etc
- Other (Pls. Specify)

9) Do you have 'Mandatory' training program for your employees on compliance regulations?

- Yes
- No

10) What areas of compliance do these training programs cover?

- Business Ethics
- HR
- Sales practices
- Financials & Reporting
- Other (Pls. Specify)

11) What type of training programs does your organization run?

- Online, Self-service managed by employees themselves
- Class-room, Instructor-led (including, 'train-the-trainer')
- Combination (Pls. Specify)
- Other (Pls. Specify)

Section 3: IT Systems & Processes 2 What type of IT structure exists in your company?

- Centralized
- De-Centralized (i.e.) business unit, regional
- Mixed

12) What type business systems do you run in your company >

- Packaged software (ERP, CRM)
- In-house developed systems
- Manual spreadsheet-based system
- Other (Pls. Specify)

13) What is your biggest concern with your IT systems with respect to Compliance regulations?

- Access control to systems
- Consolidated information availability

© 2023 Global Journals

- Risk of system failure and backup availability
- Other (Pls. Specify)

14) Would you consider access to 'consolidate' information a key factor to managing compliance needs?

- Yes
- No

15) What is the minimum 'lead' time you need to get access to consolidated financial information?

- Day
- Week
- Fortnight
- Month
- On-Demand
- Other (Pls. Specify)

16) What IT systems/tools do you use to manage your compliance requirements? (Select multiple options as applicable.)

- Identity Management
- Access Management
- Financial reporting
- Sales Management
- Business Intelligence
- Others (Pls. Specify)

17) How is your business processes aligned within your company?

- Global processes standardized across the whole company
- Business unit specific processes
- Department specific processes
- Other (Pls. Specify)

18) Which Business functions in your company are 'Global' processes? (Select multiple options as applicable)

- Finance & Operations
- Sales
- Marketing
- HR & Payroll
- IT Systems
- Other (Pls. Specify)

Section 4: Measuring Compliance Performance and Metrics:

19) What criterion do you use for your measuring your group's effectiveness? (Select multiple options as applicable)

- Financials – revenue based
- Budgets – cost based
- Customer performance/satisfaction
- Employee satisfaction
- Other (Pls. Specify)

20) Would you consider measuring Compliance fulfilment as one of the criterion used to measuring organizational effectiveness?

- Yes, Currently use this criterion
- Yes, Will use it in the future
- No, Don't intend to add this criterion
- Undecided at the moment

21) What tools do you use to measure your group's effectiveness in fulfilling compliance obligations?

- Balanced Scorecard
- Metrics dashboard
- Spreadsheets (manual)
- Don't use any tools

© 2023 Global Journals

Global Journal of Management and Business Research: A Administration and Management
Volume 23 Issue 10 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Exploring Opportunities and Successes: Navigating Self-Initiated Expatriates in the USA

By Osman Yussuf
Grambling State University

Abstract- The primary objective of this study is to enhance the comprehension of the obstacles and achievements faced by self-initiated expatriates residing in the United States. By employing in-depth interviews, this study examines the intricate experiences of individuals who have engaged in self-initiated expatriation, thereby providing insights into the challenges and opportunities encountered by organizations operating in this particular context. Through the utilization of a qualitative methodology, the study captures the multifaceted narratives and distinct viewpoints of the participants, thereby unraveling the intricate intricacies of their individual journeys. This provide valuable insights into the complex relationship between individuals and organizations in the context of self-initiated expatriation. This was achieved through the use of thematic analysis. The results of the study emphasize that self-initiated expatriates possess distinctive abilities and viewpoints, presenting a valuable asset for organizations seeking to improve innovation and adaptability. The research highlights examples in which organizations effectively leverage the capabilities of Social Impact Enterprises, attaining a synergistic equilibrium between centralized global oversight and individual independence.

Keywords: *self-initiated expatriates, challenges, opportunities, achievement.*

GJMBR-A Classification: *JEL: M12, M16, J24*

EXPLORINGOPPORTUNITIESANDSUCCESSESNAVIGATINGSELFINITIATEDEXPATRIATESINTHEUSA

Strictly as per the compliance and regulations of:

© 2023. Osman Yussuf. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BYNCND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative-commons.org/ licenses/by-nc-nd/4.0/.

Exploring Opportunities and Successes: Navigating Self-Initiated Expatriates in the USA

Osman Yussuf

Abstract- The primary objective of this study is to enhance the comprehension of the obstacles and achievements faced by self-initiated expatriates residing in the United States. By employing in-depth interviews, this study examines the intricate experiences of individuals who have engaged in self-initiated expatriation, thereby providing insights into the challenges and opportunities encountered by organizations operating in this particular context. Through the utilization of a qualitative methodology, the study captures the multifaceted narratives and distinct viewpoints of the participants, thereby unraveling the intricate intricacies of their individual journeys. This provide valuable insights into the complex relationship between individuals and organizations in the context of self-initiated expatriation. This was achieved through the use of thematic analysis. The results of the study emphasize that self-initiated expatriates possess distinctive abilities and viewpoints, presenting a valuable asset for organizations seeking to improve innovation and adaptability. The research highlights examples in which organizations effectively leverage the capabilities of Social Impact Enterprises, attaining a synergistic equilibrium between centralized global oversight and individual independence. This research makes a valuable contribution to the fields of expatriation by examining the challenges faced by self-initiated expatriates in the United States. Additionally, it highlights the considerable opportunities and successes that these organizations encounter. The implication of the results lies with ramifications for the management of human resources and the development of organizations, providing guidance for organizations to strategically utilize the potential of Social Impact Enterprises and cultivate a mutually advantageous partnership.

Keywords: self-initiated expatriates, challenges, opportunities, achievement.

I. Introduction

Self-initiated expatriates (SIEs) refer to individuals who autonomously opt to reside and engage in employment activities in a foreign country, distinct from their place of origin. This decision is typically motivated by personal or professional factors (Marie-France et al., 2020; Leonidas and Dritsas, 2022). They exhibit distinctions from conventional expatriates who are dispatched overseas by their employment. International students and exchange participants (SIEs) choose to move to the United States for various personal reasons, including the desire to enhance their professional prospects, pursue further education, immerse themselves in a different cultural environment, or enhance their overall standard of living. In contrast to expats sponsored by companies, self-initiated expatriates (SIEs) bear the responsibility of independently organizing their visas, securing job, acquiring housing, and adapting to the new surroundings without significant assistance from an employer. Self-initiated expatriates (SIEs) exhibit notable proficiency in adaptability, showcasing their capacity to effectively acclimate to unfamiliar cultures, work settings, and societal conventions. This is particularly noteworthy considering the limited access they typically have to the structured assistance commonly available to conventional expatriates (Heidi et al., 2022).

A significant number of SIEs relocate to the United States with the idea of pursuing entrepreneurial endeavors, seeking to establish enterprises or advance their professional trajectories autonomously, capitalizing on the various options afforded by the nation. Socially inclined entrepreneurs (SIEs) demonstrate a proclivity for actively engaging with the local culture, displaying a desire to assimilate into the society, foster interpersonal relationships, and cultivate networks in order to foster a sense of affiliation (Vlad et al., 2015). Special Immigrant Entrepreneurs (SIEs) originate from a wide range of professional backgrounds, thereby introducing a multitude of skills, information, and viewpoints that enrich the cultural and professional diversity within the American workforce (Subramaniam et al., 2022).

A significant number of skilled immigrant entrepreneurs (SIEs) that choose to relocate to the United States have a high level of education, accompanied by a range of specialized skills and knowledge that are highly valued within the domestic labor market. While it is true that some individuals with SIE (Special Immigrant Entrepreneur) status may originally want to stay in the United States for a limited period, a significant number of them ultimately choose to prolong their stay or establish permanent residency. This decision is often influenced by the attractive prospects and quality of life available in the United States (Maike et al., 2020).

The research emphasizes that self-initiated expats has distinctive and valued skills and perspectives that they contribute to businesses. This discovery implies that acknowledging and using these attributes can help to the enhancement of creativity and flexibility within the organizational framework. This study aims to identify specific cases in which corporations effectively

Author: Department of Management, College of Business, Grambling State University, Louisiana, USA. e-mail: yussufo@gram.edu

© 2023 Global Journals

manage the intricacies associated with collaborating with Social Impact Enterprises (Maria et al., 2019). The attainment of a harmonious equilibrium between centralized worldwide supervision and individual autonomy appears as a pivotal approach, signifying that organizations can proficiently harness the capacities of such firms. This study makes a valuable contribution to the topic of expatriation by providing insights into the distinct difficulties encountered by self-initiated expatriates residing in the United States. This discovery highlights the significance of comprehending and tackling these obstacles in order to assist the assimilation of self-initiated expatriates into organizational frameworks (Ashwini et al., 2016). The study demonstrates that firms that actively involve self-initiated expatriates and Social Impact Enterprises experience notable opportunities and achievements. This suggests that engaging in such relationships can result in favorable consequences for enterprises, highlighting the advantageous possibilities associated with collaborating with these entities (Aziz et al., 2023). The implications of the study have broad relevance in the domains of human resource management and organizational development. The results indicate that organizations have the ability to strategically utilize Social Impact Enterprises to their benefit, providing practical advice on how to form and foster mutually beneficial partnerships for sustainable development (Prashant et al., 2023).

Organizations encounter particular difficulties when it comes to acknowledging, leveraging, and incorporating the unique skills and perspectives of self-initiated expatriates into their functioning, with the aim of enhancing innovation and adaptability. Organizations have many problems in attaining and sustaining a harmonious balance between centralized global oversight and individual autonomy when collaborating with Social Impact Enterprises (Washika et al., 2021). This equilibrium is crucial for efficiently addressing these challenges. What are the distinct hurdles encountered by self-initiated expatriates in the United States, and how do these challenges influence their assimilation into organizational structures and procedures? What are the distinct opportunities and achievements that organizations experience while engaging with self-initiated expatriates and Social Impact Enterprises, and what are the contributing variables that lead to the attainment of these favorable results? The strategic exploitation of Social Impact Enterprises (SIEs) for human resource management and organizational development presents several obstacles and considerations. Organizations must navigate these challenges in order to form mutually advantageous collaborations (Scarlat (2022).

The objective of this study is to ascertain and comprehend the unique skills and perspectives possessed by self-initiated expatriates, and to evaluate how firms can efficiently acknowledge, utilize, and incorporate these attributes in order to boost innovation and adaptability. The objective of this study is to examine and evaluate cases in which businesses effectively utilize the capacities of Social Impact Enterprises. The aim is to comprehend the techniques and approaches employed to attain a harmonious balance between centralized global supervision and individual autonomy the objective of this study is to examine and record the difficulties encountered by self-initiated expatriates residing in the United States. The aim is to generate significant knowledge within the field of expatriation and develop a full understanding of the distinct issues faced by this particular group (Selmeret al., 2022).

The objective of this study is to examine and evaluate the distinct opportunities and achievements that organizations experience while engaging with self-initiated expatriates and Social Impact Enterprises. The aim is to comprehensively comprehend the elements that contribute to these outcomes and the resulting consequences for organizational development. The objective of this study is to examine the consequences of the study's findings on human resource management and organizational development. The goal is to offer practical recommendations to organizations on how to effectively harness the capabilities of Social Impact Enterprises and establish mutually beneficial collaborations.

II. Related Work

Self-initiated expatriates (SIEs) refer to individuals who autonomously decide to go to a foreign nation for the purpose of employment and residence. The comprehension of SIEs can yield valuable insights regarding the profiles of expatriates who are more likely to achieve success, as well as effective strategies for their management (Aziz et al., 2023). Numerous scholarly investigations have delved into diverse facets of self-initiated expatriates (SIEs), encompassing their motivations, psychological well-being, and job associations. Research has indicated that Socially Isolated Individuals (SIEs) exhibit distinct groupings characterized by their underlying motivations, which can be influenced by the Basic Psychological Needs (BPNs) outlined in the Self-Determination Theory (SDT) (Selmeret al., 2022). Furthermore, scholars have conducted investigations on SIEs in other settings, including the migration of professionals from emerging markets to developed economies (Prashant et al., 2023) and the mobility of academics in the higher education industry (Subramaniam et al., 2022). These studies enhance our comprehension of SIEs and carry implications for policies and practices in international human resource management (Heidi et al., 2022). In general, the examination of opportunities and achievements of self-initiated expatriates (SIEs) can

© 2023 Global Journals

yield useful insights into the successful management of this particular talent pool.

The study conducted by Maike et al. (2020) offers a conceptual examination of self-initiated expatriates and emphasizes the significance of personal initiative as a behavior pertinent to forthcoming work environments that necessitate self-sufficiency. In their study, Maria et al. (2019) examine the transition of expatriation from being mostly controlled by corporations to a more self-driven form known as self-initiated expatriation. This shift is observed among mobile individuals and families who engage in expatriation for the purpose of advancing their careers and accessing resources in international settings. The statement emphasizes the presence of a spectrum in the distribution of agency and the collaborative nature of actions involved in the process of expatriation. This indicates a blending of different elements rather than a strict division between them. This necessitates engaging in conceptual conversations to comprehend the phenomenon of expatriation.

The problem of self-initiated expatriation in an organizational environment has been addressed by Ashwini et al. (2016), who highlight its under-researched nature in the academic literature. This research utilizes a qualitative case study approach to examine the experiences of self-initiated expatriates in the IT industry in the United States, originating from diverse cultural backgrounds. The findings of this study offer significant insights into the subject matter. Vlad et al. (2015) provide a comprehensive overview of the key considerations related to the management of self-initiated expatriates' talent within a global framework, encompassing all aspects of talent management. This paper offers a significant analysis of global talent management concerns pertaining to self-initiated expatriates, who are becoming a progressively prominent source of global talent within host country labor markets.

The study conducted by Marie-France et al (2020) investigates the influence of host country factors on the professional achievements of self-initiated expatriates (SIEs). This observation underscores the greater importance of the host country's institutional qualities, culture, language, and reputation for self-initiated expatriates (SIEs) in comparison to assigned expats. This study enhances our comprehension of the manner in which the attributes of the host country impact the professional achievements of self-initiated expatriates. The study conducted by Washika et al. (2021) offers a comprehensive analysis of the professional decisions and paths followed by self-initiated expatriate women (SIEs). The authors delve into various aspects such as the motivations behind their decision to relocate, their employment history, their present and prior work experiences, as well as their future career aspirations. The primary discoveries of the study emphasize that the professional trajectories of women in the field of social impact entrepreneurship (SIEs) exhibit variations depending on their country categorization and marital status. Notably, life phases and fortuitous circumstances exert a more substantial influence on these trajectories than deliberate career planning.

Scarlat (2022) presents a study on the identity work of self-initiated expatriates, focusing on the processes by which people develop and sustain their identities and motivations while engaging in global mobility. The methodologies employed in these academic works exhibit certain limits and flaws. One limitation of the publications is their exclusive focus on particular demographics, such as self-initiated expatriates (SIEs) from emerging markets or academic self-initiated expatriates. The limited scope of this study may restrict the applicability of the results to other groups of individuals living abroad. The study conducted by Ellis et al. (2020) does not examine the opportunities and achievements of self-initiated expatriates in the United States. Instead, the paper specifically centers on the repatriation experiences of self-initiated expatriates originating from New Zealand. The study done by Leonidas and Dritsas (2022) focused on self-initiated expatriates (SIEs) but did not particularly examine the prospects and successes of SIEs in the United States. This study centers on examining the factors that influence the resilience of self-initiated expatriates and their trajectories in international careers.

III. Research Methodology

The present study employs a qualitative research methodology. The utilization of qualitative research methodology entails employing a specific approach to collect data that is not numerical in nature, with the objective of comprehending social phenomena, human behavior, and the underlying rationales for particular acts or viewpoints (Creswell, 2017). The primary objective of this study is to investigate and get a comprehensive understanding of the intricate nature, significance, and contextual aspects associated with the many human encounters and phenomena. The incorporation of qualitative methods in this study offers a distinctive approach to scholarly inquiry that is tailored to the context of the United States. The technique outlined by Huberman and Miles (2013) is grounded in many philosophical assumptions, investigative methodologies, and data collection procedures. This tool enables academics to employ textual and visual data collected during field research. In contrast to the controlled laboratory settings commonly utilized in research, data gathering occurs on-site, facilitating direct engagement of individuals with the issue or problem under investigation. The present study places considerable emphasis on the analysis of written

© 2023 Global Journals

records, observation of human conduct, and the administration of interviews with individuals with pertinent expertise, as elucidated by Peterson (2019). In the qualitative research methodology, the researcher is dedicated to obtaining a comprehensive understanding of the perspectives provided by participants regarding a specific topic or subject matter. The primary objective of this study is to gather firsthand information from participants, with a specific focus on a research issue that is unique to the United States. This is similar to the approach perform in Eldh et al. (2020) where this kind of assignment involves the examination of several perspectives, the evaluation of different components within a particular situation, and the providing of a thorough examination of the broader context.

a) Population of the Study and Sampling Technique

The procedure of delineating the research population entails the identification of prospective participants who are pertinent to the research topic. The primary objective of this research is to investigate the challenges and opportunities encountered by organizations and individuals in relation to self-initiated expatriates within the United States. The study sample may consist of many prospective cohorts, such as self-initiated expatriates (SIEs), professionals in human resources, leaders within organizations, decision-makers involved in expatriation policies, colleagues of SIEs, networks providing support to expatriates, cultural consultants, academic experts, and researchers.

In order to get demographic, economic, and social statistics pertaining to the United States, this study utilizes the extensive information made available by the United States Census Bureau through periodic censuses and surveys. These sources provide significant insights regarding population sizes and workforce trends. Therefore, the selected sampling technique for this study is purposeful sampling, which is in accordance with the qualitative research premise of deliberately selecting participants who may offer the most valuable insights. In contrast to quantitative research approaches, which frequently employ random sampling and higher sample sizes, qualitative research utilizes a smaller sample size, provided that data collection achieves saturation (Creswell, 2017). This implies that the sample size utilized in qualitative research is typically limited. For the purpose of this study, a total of five informants were selected. This precise numerical value was deemed appropriate for conducting qualitative investigations, particularly in order to achieve saturation during the process of constructing grounded theory.

b) Data Collection

The present study employs a qualitative research methodology, utilizing interviews as the primary means of data gathering. The aim of this study is to examine the integration-autonomy conundrum encountered by self-initiated expatriates residing in the United States. This will be achieved by active engagement with participants, allowing for a comprehensive understanding of their unique experiences and perspectives.

The selection of five informants was conducted in accordance with the research objectives and set sampling criteria. These criteria encompassed many categories, such as self-initiated expatriates and HR managers, among others. The researchers initiated contact with potential volunteers through a variety of communication modes, including email, phone conversations, and in-person contacts. During these encounters, the researchers provided an explanation of the study's objectives and sought the participants' involvement.

Prior to conducting the interviews, the researcher administered a consent form to each participant. The provided document delineated the objectives of the research, the methodology employed for conducting interviews, the ethical considerations regarding participant rights, and the safeguards implemented to ensure anonymity. All five participants engaged in a comprehensive examination and understanding of the consent form, thereafter expressing their agreement to participate in the study by affixing their signatures to the document.

The interviews were done exclusively using the internet platform Zoom, with each participant participating in individual interview sessions. The participants reached a consensus to consent to the recording of their interviews, so facilitating the production of precise transcriptions at a later stage. The transcription process was aided by the capabilities of Zoom, which enabled the collection of speech cues, tones, and emotions, so ensuring a thorough record of the interviews.

In relation to the characteristics of the participants, the initial respondent is a male lecturer aged 49, affiliated with a university in New York. This individual possesses a noteworthy professional background spanning two decades. The second informant is a male from Texas working in human resources department, aged 36, with 5 years of professional experience. The third participant, is a female from Louisiana aged aged 50 and currently employed IT-based firm. The fourth individual involved in the study is a male lecturer, aged 41, who resides in Louisiana. He is employed as an educator at an institution of higher learning with 6 years working experience. The fifth participant, identified as a female aged 56, has accumulated an 18 years of pertinent professional experience. She is working in a legal firm the inclusion of individuals with diverse backgrounds and experiences in the interview process enhances the richness of the qualitative data gathered.

© 2023 Global Journals

Table 1: The Profile of the Respondents

Informant	Gender	Title and Organization	Age	Duration	Place
Informant 1	Male	Lecturer (Education)	49	21	New York
Informant 2	Male	HR staff (HR)	36	5	Texas
Informant 3	Female	Admin Staff (IT firm)	50	31	Louisiana
Informant 4	Male	Lecturer (Education)	41	6	Louisiana
Informant 5	Female	Lawyer (Legal firm)	56	18	Washington

c) Analytical Technique

The study engaged in a comprehensive thematic analysis of interview transcripts, aiming to uncover recurring patterns and themes relevant to the complex paradox of integration and autonomy. The transcripts were meticulously organized to discern underlying themes, patterns, and emerging insights that surfaced from the participants' narratives.

Delving into the analysis, the researchers sifted through the interview responses to discern commonalities, contradictions, and prevalent trends pertaining to the integration-autonomy paradox. Initial themes that surfaced prominently encompassed the experiences of role ambiguity, the delicate balance between cultural assimilation and individual identity, and the profound impact of organizational support on expatriates.

Qualitative research methodologies, as advocated by Creswell (2017), often advocate for condensing data into a manageable number of themes, typically ranging from five to seven themes. Consequently, in this particular study, meticulous organization and preparation of the collected data were imperative for subsequent analysis. This involved ensuring a coherent linkage within and across themes, necessitating the careful cleaning and alignment of transcribed interviews.

The interview data not only encapsulated the core ideas expressed by the informants but also encapsulated the nuances of their tone, depth, credibility, and the usefulness of the shared information. Subsequently, a systematic coding process was undertaken to categorize and interpret the entirety of the data, facilitating a deeper understanding of the intricate layers embedded within the interviews.

Following the exhaustive coding process, a critical discussion ensued, focusing on the analysis and synthesis of these identified themes, eventually crystallizing into the primary findings of the study. These findings were subjected to rigorous interpretation, allowing for a comprehensive understanding of the nuanced interplay between integration and autonomy among self-initiated expatriates in the USA. This critical interpretation marked the culmination of the study, providing insights into the multifaceted nature of the integration-autonomy paradox within this specific context.

IV. The Principal Finding and Interpretation

Self-Initiated Expatriates (SIEs) have been selected as the subjects of this investigation because of their ability to bring distinctive experiences and points of view to the table. This is a reference to the acknowledgement that self-initiated expatriates bring with them a unique set of skills and points of view, which positions them as valuable resources for businesses. The revelation of ideas that pertain to how firms can effectively uncover, use, and incorporate these one-of-a-kind characteristics in order to increase their innovation and adaptability has taken place recently. In addition, it has been demonstrated that successful strategies for capitalizing on the challenges encountered by self-initiated expatriates in the United States are directly tied to an understanding of the repercussions of integrating these persons into organizational frameworks. This is because the difficulties encountered by self-initiated expatriates in the United States can be capitalized on in a number of different ways.

This study illustrates that a self-initiated expatriate who possesses knowledge in sustainable development provides novel ideas and a distinctive viewpoint to a company, which ultimately results in the successful implementation of environmentally conscious initiatives.

When attempting to navigate the commercial landscape in the United States, self-initiated expats frequently come up against cultural challenges as well as regulatory impediments. This is another noteworthy observation. In light of this, the significance of organizational support systems in the facilitation of a more seamless integration process cannot be overstated.

a) Thematic Evaluations

There are many themes that emerges from the finding: The present study employs a qualitative research methodology, utilizing interviews as the primary means of data: “personal experience on challenges”,

b) Finding Associated to Personal Experience on Challenges

The aforementioned discoveries collectively emphasize the complex array of difficulties encountered by self-initiated expatriates as they traverse the integration-autonomy contradiction within the United

© 2023 Global Journals

States. The diverse range of experiences underscores the necessity of implementing comprehensive support systems and techniques to assist expatriates in effectively navigating and surmounting these difficulties. One respondent reveals that:

"In the context of self-initiated expatriates (SIE), it is commonly assumed that individuals who relocate to another country and secure employment there have taken the initiative to establish themselves in a new home, such as the United States or other countries that actively attract skilled individuals through various channels". These channels may include programs like the Diversity Visa (DV) lottery and university-sponsored initiatives, among others. In relation to the equilibrium between assimilation into one's host organization and the preservation of individual liberty. It is necessary for individuals to acquire knowledge regarding organizational assimilation, which can be defined as a continuous and evolving interaction between an organization and its individual members. This process entails personnel familiarizing themselves with the anticipated norms of the organization and perceiving themselves as capable of effecting change within the organizational context. Individuals inside an organization depend on social interactions to gain the knowledge required for their tasks and to facilitate organizational improvements. This knowledge can also be applied to their personal initiatives and way of life.

One Respondent Reveals that: "I have had the opportunity to engage with diverse companies, where I have been fortunate to collaborate with individuals from all backgrounds, including different races and knowledge bases". This implies that an individual's experience encompasses working with a diverse array of companies and engaging with individuals from diverse backgrounds. This observation underscores the presence of diversity within these work contexts, which includes persons from various racial backgrounds and possessing a wide range of knowledge bases. This particular encounter implies the speaker's involvement with and cooperation among a diverse set of colleagues, which allows for the speaker to actively participate in and gain knowledge from persons with diverse viewpoints, backgrounds, and skills. The speaker's love for working in inclusive and multicultural settings is highlighted by the emphasis on diversity, which has likely played a significant role in shaping their professional experience into one that is diverse and multidimensional.

Another Respondent Reveals that: "Candidly speaking, I found great satisfaction in my experiences working alongside my peers, as these interactions have facilitated my personal growth and acquisition of information. My understanding of self-initiative expatriates is limited. However, your research has provided me with opportunities to delve into and comprehend the significance, as well as the distinctions, between migrants, refugees, and assigned expatriates" The aforementioned remark emphasizes the significance of this research as a beneficial tool, facilitating an in-depth exploration of the topic and fostering a more comprehensive comprehension of the several classifications, including migrants, refugees, and assigned expatriates. The aforementioned enhanced understanding demonstrates the significance of research in broadening one's comprehension of intricate topics pertaining to international mobility and various types of relocation encounters.

Another Respondent also Reveals that: "In my perspective, achieving a harmonious equilibrium between assimilating into one's host organization and keeping individual autonomy can be understood as an expression of personal initiative within the context of situated action. The significance of individuals' actions is influenced by the interplay between personal initiative and the surrounding circumstances, emphasizing the importance of the specific situational context, including its limitations and opportunities. The degree of initiative exhibited by individuals might vary depending on the specific circumstances. Variations in circumstances can be attributed to factors such as the specific competences required to demonstrate initiative and the varying levels of proficiency possessed by individuals.

One Respondent also: "The concept of being a self-initiative expatriate is rooted in maintaining a positive outlook. To embody this characteristic, one must proactively address new situations rather than waiting to be compelled to do so". On the contrary, those possessing a long-term orientation possess the ability to predict forthcoming circumstances, such as emerging job requirements or potential prospects, and effectively respond to them. In addition, it is imperative that SIEs be proactivity entails the inclination of SIEs to prepare contingency strategies in the event that anticipated outcomes fail to materialize. In order to effectively navigate the hurdles of the workplace as a self-initiative expatriate, it is advisable to proactively anticipate potential obstacles related to language and culture. This can be accomplished by undertaking language acquisition efforts and engaging in cultural studies before to embarking on the overseas assignment. This behavior encompasses the act of questioning and challenging the existing norms and practices within one's professional and personal domains, with the aim of enhancing or altering one's present circumstances. Additionally, it entails the cultivation of personal capabilities and assets to effectively cope with forthcoming work-related and personal challenges.

Another Respondent Reveals that: "The process of becoming a self-initiated expatriate can present both exhilarating and demanding circumstances. Although I lack personal experience, I have been exposed to

© 2023 Global Journals

numerous anecdotes regarding this matter". Individuals frequently undertake this endeavor for a multitude of reasons, including the pursuit of professional prospects, the yearning for cultural immersion, or the mere want for a shift in lifestyle. Language difficulties might pose a substantial obstacle as well. Acquiring proficiency in the indigenous language is not only crucial for effective communication, but also for fostering social integration within the local community. The impact of language ability on one's experience and interpersonal ties with individuals from the local community is a subject of great fascination. The establishment of a support network is of paramount importance. Developing social connections with both local residents and other expats fosters a feeling of inclusion and assistance, particularly when encountering the expected challenges and fluctuations associated with acclimating to an unfamiliar setting. The impact of seemingly insignificant acts of kindness from unfamiliar individuals or recently acquainted companions on one's sense of belonging is remarkable. The initial stage is typically characterized by a combination of eagerness and fear. The act of venturing into a foreign nation, immersing oneself in its cultural practices, and engaging with individuals of various origins evokes a sense of excitement. Nevertheless, the pragmatic elements such as securing lodging, maneuvering through local administrative procedures, and comprehending cultural conventions can prove to be formidable challenges.

c) *Finding Associated to Integrating Culture and Work Practices*

The finding indicates that organizations that successfully incorporate the varied cultural backgrounds brought by self-initiated expatriates observe a heightened level of innovation. This finding implies that the incorporation of diverse cultural perspectives and work practices has a beneficial impact on creativity and problem-solving within the organizational setting.

One Respondent Reveals that: "In all honesty, when embarking on a new employment opportunity at an international level, it is imperative to demonstrate a genuine appreciation for the company culture". In essence, facilitating the orientation process for newly hired personnel significantly contributes to their successful assimilation inside the business, particularly within a vast, heterogeneous, and intricate professional setting such as the United States. In addition, it would be beneficial to provide individuals with significant resources that can aid them in effectively managing the first challenges associated with assuming a new role.

Another Respondent Reveals that: "Based on my interpretation of your inquiry, culture can be delineated as the collective patterns of conduct exhibited by individuals inside an organization, encompassing their attitudes and beliefs that shape these actions. This encompasses both explicit standards that are formally articulated, as well as implicit modes of operation and interaction. In numerous companies, a disparity often exists between the prevailing culture and the aspired culture". The establishment of a cultural framework that fosters and propels the company's objectives and strategic initiatives. In the proposed culture-building approach, the cultivation of the desired culture is a shared responsibility among all individuals involved. In order to successfully transition into the role of an expatriate, particularly in the United States, it is imperative to acclimate oneself to the local culture, cuisine, and surroundings, both on an individual and societal level. Furthermore, it is essential to engage in a comparative analysis of prior experiences and future aspirations in order to effectively navigate one's professional trajectory.

The assessment of speaking performance feedback generally evaluates an individual's capacity to apply the skills and knowledge acquired from a certain area of competence in a professional setting. The activity typically presents individuals with the opportunity to engage their higher-order cognitive abilities in order to generate a product or accomplish a procedure. The variety of tasks might vary from a straightforward prepared response in the form of a quick answer to a more intricate design concept for a sustainable neighborhood. One could argue that the most authentic evaluations necessitate persons to engage in a task that closely emulates the duties of a professional in many fields such as art, engineering, laboratory work, financial analysis, or consumer advocacy.

One Respondent Reveals that: "It is evident that there are significant variations in the prevalence of foreigners within the host community, hence influencing the extent to which expatriation to that particular country deviates from the norm". In addition to cultural diversity, factors such as the relative sizes or proportions of cultural groups within the destination community, as well as variations in values, norms, language, and religion between the home and host country, or even within different cultural groups within the destination community, play a significant role in determining the extent of self-initiated behavior required. The variances in community culture give rise to relocation expenses that are expected to diminish the appeal of self-initiated expatriation. I trust that you find my response to be satisfactory.

The process of assimilating into the cultural and operational norms of a host organization as an expatriate is typically accompanied by a range of expectations that are contingent upon factors such as the organization itself, the cultural milieu of the host country, and the specific industry in question. The following are several perspectives regarding these expectations. Expatriates are generally anticipated to promptly assimilate into the work culture and practices of the host organization, as an implicit expectation. This

© 2023 Global Journals

include the comprehension of organizational frameworks, communication conventions, and designated working hours. The quality of adaptability is much esteemed, as it signifies the expatriate's inclination to readily accept and integrate into the organizational structure, thereby showcasing their flexibility in the face of change. It is imperative to possess a comprehensive comprehension of and demonstrate profound respect for the cultural norms and practices of the host country.

Expatriates are expected to demonstrate a high level of cultural awareness towards local norms, traditions, and values, both within the professional environment and in their day-to-day contacts. Frequently, this entails acquiring proficiency in the indigenous language, when feasible, and demonstrating sensitivity towards cultural subtleties. In general, the expectations center on possessing cultural awareness, adaptability, collaboration skills, and a strong commitment to making a constructive contribution towards the objectives of the business. Nevertheless, it is important to note that these expectations may vary depending on the particular organization, industry, and cultural environment of the host nation.

One Respondent Reveals that: "*In my opinion, individuals who choose to work abroad as self-initiative expatriates should possess a comprehensive understanding of the unique cultural attributes exhibited by various countries. In certain nations, there exists a variety of manifestations of discontent, psychological strain, apprehension, and occupational efficacy*". In addition to cultural diversity, which encompasses the proportions or distributions of cultural groups within the host community, various factors such as disparities in values, norms, language, and religion between the home and host country, as well as the cultural distance among different groups within the destination community, play a significant role in determining the requisite level of self-initiated behavior. Self-adjustment mostly enhances the overall welfare of an expatriate who perceives themselves as being esteemed and relied upon. Individuals who possess a higher level of adjustment as expatriates are more likely to effectively navigate situations including conflict, emotional depression, and feelings of loneliness within social contexts.

d) *Finding Associated to Integration-Autonomy Dichotomy*

The key benefits and challenges related to attaining a harmonious balance in the workplace involve granting people the autonomy to operate in a manner that aligns with their preferences. This research has been able to gathered that an autonomy in the workplace entails granting employees the authority to determine the manner and timing in which their tasks are executed. If individuals are capable of completing tasks effectively without the need for excessive supervision, what is the rationale behind implementing strict regulations? Occasionally, regulations might impede the process of innovative ideation and generate unnecessary stress on individuals' performance. If the notion of granting freedom appears to have the potential for disorder, it is worth examining the situation from an alternative perspective. The notion of increased workplace autonomy acknowledges the inherent diversity among individuals. Although each team member may adopt a distinct strategy, it is important to note that such diversity does not necessarily render any of these approaches wrong. Trust is bestowed upon individuals with the expectation that they will successfully fulfill their responsibilities.

One Respondent Reveals that: "*There is no universally applicable approach to expatriation for those who possess a propensity for taking risks*". Undoubtedly, the ability for individuals to ascertain the most optimal approach for themselves stands out as a highly appealing characteristic of adjustment. The effectiveness of building a self-initiative expatriates' workforce can vary depending on individual personality traits. Nevertheless, there exist numerous alternative approaches to achieve this objective. One possible approach to differentiate this particular form of expatriation from other types of expatriation is not primarily based on the location or timing of an individual's job, but rather on the level of autonomy granted to them in making these decisions independently. In order to get insight into the requisite degree of autonomy necessary to achieve a desired level of individual flexibility and adaptability within novel contexts, it is vital to conduct a comprehensive analysis. For instance, self-initiative expatriates who are afforded significant autonomy by their respective organizations enjoy more flexibility due to the absence of geographical constraints imposed on their job. It should be noted that not all individuals with high levels of autonomy will necessarily opt to utilize this flexibility by working in various locations. Rather, they possess the capability to do so if they so desire.

Another Respondent Reveals that: "*The significance of clarification lies in comprehending one's role within the organizational context*". Role definition is an essential process that facilitates the establishment of clear expectations, identification of priorities, and alignment within the working environment. The alignment that is deemed required plays a crucial role in facilitating the accomplishment of the strategic goals and activities of the company. Regular identification of strategic objectives is crucial in assisting individuals in establishing goals that are in alignment with the mission and values of the business. By imparting these objectives to a recently hired staff member, it will facilitate their comprehension of the division's purpose and responsibilities.

© 2023 Global Journals

One Respondent also Reveals that: "*One of the most essential determinations is in the capacity to engage in decision-making, whereby the ability to make sound choices is perceived as a cognitive incentive that fosters a proclivity for repetition*". For example, individuals who derive satisfaction from their professional endeavors in their place of origin, particularly due to the increased independence they experience in their work, may encounter challenges while relocating abroad and adapting to additional obligations. In a broader context, it is crucial to acknowledge the significance of autonomy for self-initiated expatriates and the inherent emphasis they place on having a range of choices. However, certain persons may express concerns regarding the potential loss of power associated with granting autonomy to their decisions. The concept of autonomy does not necessarily need to adhere to a zero-sum framework. However, it is necessary to engage in thorough and empathic analysis in order to devise strategies that ensure the successful implementation of autonomy for all individuals.

Another Respondent Reveals that: "*The attainment of a harmonious equilibrium between integration and autonomy for self-initiated expatriates entails many benefits and challenges. One of the advantages of integration is the development of cultural understanding*". By immersing oneself in the local culture, individuals can gain a more profound comprehension of customs, traditions, and societal norms. The acquisition of this knowledge has the potential to enhance both individual experiences and professional engagements. One additional benefit the topic of discussion pertains to the concepts of network and support. The process of integration frequently results in the development of a resilient local network. Establishing connections with both local residents and fellow expatriates offers significant assistance, direction, and a feeling of inclusion, so proving to be indispensable when confronted with various obstacles. Career Prospects: Assimilating into the indigenous work environment can provide individuals with enhanced prospects for professional growth and the exploration of new avenues for career development. Gaining a comprehensive understanding of the professional landscape of the host nation can significantly enhance one's prospects and facilitate career advancement. Personal growth can be fostered through the delicate balance of integration and autonomy. This facilitates the cultivation of adaptability, resilience, and cross-cultural communication skills, hence augmenting an individual's comprehensive skill set and global perspective.

e) Finding Associated to Organizational Policies

The finding that is connected to the policy of the organization that results in opportunities lies with many different issues. That is, the identification of the organizational policy-related aspects that contribute to the creation of possibilities is connected with a great deal of difficulty and complexity. One respondent reveals that "*policy based on documented cases that highlight the influence of organizational policies, support systems, and communication on the equilibrium between integration and autonomy for expatriates*". Cultural training programs play a crucial role in facilitating expats' comprehension of local cultures, language, and work practices, hence enhancing their ability to adapt and integrate into new environments.

Diversity and inclusion initiatives are known to foster inclusive work settings that encourage individuals to freely express their distinct identities. These programs aim to foster an inclusive culture, thereby facilitating expatriates in maintaining their autonomy while also integrating into their new environment. It has been observed that firms possessing comprehensive support systems are more likely to have expatriates who experience a heightened sense of empowerment in effectively managing the integration-autonomy contradiction. The presence of well-defined regulations, effective communication practices that promote inclusivity, and the provision of support structures are crucial in facilitating the successful integration of individuals within an organizational setting, while still allowing them to maintain their distinct identities.

Another Respondent Reveals that: "*Effective communication strategies can significantly enhance organizational success through various means. It enhances staff morale, satisfaction, and engagement".* Assisting employees in comprehending the terms and conditions of their job fosters their dedication and allegiance. Another crucial aspect to consider is that innovation is a necessary component for a workplace to continuously progress and advance. The absence of autonomy within a company can lead to organizational stagnation. This phenomenon is particularly evident when employees are actively discouraged from engaging in the process of generating innovative ideas and thinking beyond conventional boundaries. Businesses must adapt and remain relevant as technology continues to advance. The process of workplace growth is impeded when the prevailing workplace culture is rooted in compliance.

Another Respondent Reveals that: "*My personal experience with the implementation of organizational policies, the provision of support, and communication strategies*. One approach that expatriates can employ to actively engage with the shaping of an organization's culture is by fostering a sense of alignment among all stakeholders towards its mission, purpose, and vision. This communication can be conceptualized as establishing the fundamental basis for culture. The comprehension and interpretation of a subject matter. What is the fulfillment provided by the company philosophy? What are the ways in which it generates a

© 2023 Global Journals

good influence? What is the envisioned future and what strategic approaches have been implemented to achieve it? Several inquiries can be made to anticipate and address the requirements for specialized knowledge in a novel professional environment. Furthermore, it is imperative to ensure that each member of the staff comprehends the manner in which their daily tasks and responsibilities contribute to the overall success of the firm.

V. Discussions

The aforementioned statement underscores the favorable outcomes associated with the presence of a self-motivated expatriate possessing expertise in sustainable development operating within the confines of an organizational setting. The self-initiated expatriate, leveraging their expertise in sustainable development, offers novel contributions to the organization. The concepts are presumably centered on the implementation of ecologically conscious strategies, with the objective of augmenting the organization's endeavors towards sustainability. The organization benefits from their specialized knowledge in sustainable development, which contributes a unique perspective. This perspective is likely to prioritize environmental considerations and adopt a comprehensive approach that takes into account ecological, social, and economic aspects. The inclusion of this self-motivated expatriate enhances the effective execution of ecologically sustainable procedures within the firm. The ideas and distinct perspective of individuals are likely to have a significant impact on the development of strategies and initiatives that prioritize sustainability, ultimately resulting in outcomes that are both effective and successful. In summary, our finding highlights the considerable worth that a self-motivated expatriate possessing specialized knowledge in sustainable development can offer to an institution through the facilitation of innovation, provision of a distinct perspective, and contribution to the effective implementation of environmentally conscious strategies.

The United States is often regarded as a symbol of hope and potential for countless individuals across the globe. Among the various categories of individuals, self-initiated expatriates enter a foreign country with a distinct objective, but often discover that their objectives become intertwined with the broader concept of the American dream. The trajectory of their endeavor, while initially auspicious, is marked by a multitude of complex obstacles that present themselves as barriers towards achieving ultimate triumph. For many individuals living abroad, the United States represents a sphere of opportunities, a location where ambitions are fostered, and the prospect of achieving success appears within reach. Individuals undertake this expedition motivated by their desire, in pursuit of enhanced chances, professional advancement, or an opportunity to establish their unique position in a region abundant with possibilities. Nevertheless, the path towards achieving success is sometimes fraught with obstacles, and self-initiated expatriates are confronted with a multitude of problems throughout their journey. Upon their arrival, these individuals encounter a wide range of challenges that assess their ability to adapt and persevere. Cultural gaps present a significant obstacle, as navigating the intricacies of American culture may be a formidable undertaking. The conflict that arises from the collision of established traditions and emerging societal standards frequently necessitates substantial adaptations, which in turn affect individuals' integration into both professional and social domains.

Moreover, the presence of bureaucratic obstacles introduces multiple levels of intricacy to their trajectory. Successfully navigating complex administrative systems, visa restrictions, and legal frameworks necessitates a considerable investment of time, patience, and comprehension. The complex procedural nuances frequently provide obstacles that hinder the growth of expatriates, necessitating substantial work to overcome. Nevertheless, within the context of these obstacles, one can observe the remarkable perseverance and determination exhibited by self-initiated expatriates. Motivated by their objectives and resolute determination, individuals persist in the presence of challenges. As they confront each difficulty, individuals demonstrate the capacity to adjust, acquire knowledge, and undergo transformation. Individuals actively strive to find methods to overcome cultural barriers, frequently welcoming the presence of other perspectives as a driving force for personal development and the generation of novel ideas. Furthermore, the assistance mechanisms present in both organizational and community settings play a pivotal role in facilitating the progress of these expatriates. The availability of mentorship, guidance programs, and support networks facilitates the process of integration for individuals. Organizations that acknowledge the significance of diversity and inclusion create opportunities for expatriates to flourish, enabling them to contribute their distinct viewpoints and specialized knowledge to the American labor market.

In the end, self-initiated expatriates are able to overcome the early hurdles they encounter by demonstrating perseverance, adaptability, and a persistent pursuit of their goals. The concept of the American dream has expanded to cover more than just achieving work success. It now includes a broader and more comprehensive experience that involves personal growth, cultural integration, and professional achievement. The experience of self-initiated expatriates in the United States is marked by a combination of difficulties and successes. Individuals are motivated by their ambitions to pursue achievement, however encounter various obstacles of a cultural, bureaucratic, and

© 2023 Global Journals

societal nature along their journey. Nevertheless, the individuals' ability to endure and persist empowers them to surmount these challenges, so actualizing their aspirations of achieving the American dream. This achievement extends beyond mere professional accomplishments, encompassing personal development and assimilation into the cultural fabric of their adopted nation. The narratives provided by these individuals serve as a monument to the remarkable capacity of the human spirit to adjust and thrive, transforming obstacles into catalysts for a more promising future within a realm abundant with prospects.

The study underscores the notion that self-initiated expatriates face cultural obstacles when navigating the corporate environment in the United States. These issues may encompass disparities in business cultures, communication styles, workplace conventions, or cultural expectations that deviate from those prevalent in their country of origin. The process of navigating these cultural disparities poses challenges that have an effect on their assimilation within the corporate setting. The study highlights the presence of bureaucratic obstacles encountered by self-initiated expatriates, in addition to the cultural problems they experience. This phenomenon is commonly understood as the presence of administrative complications, legal procedures, or regulatory frameworks within the commercial landscape of the United States. These factors might create barriers to the seamless integration and successful pursuit of professional goals. The emphasized outcome highlights the significance of support systems inside organizations. The importance of establishing sufficient support systems inside enterprises is underscored. Potential forms of help may encompass cultural orientation programs, mentorship initiatives, administrative aid, or personalized coaching aimed at aiding expatriates in navigating cultural and bureaucratic obstacles, hence promoting a more seamless integration process. This discovery highlights the two-fold difficulties encountered by self-initiated expatriates in the United States corporate environment, namely cultural adaptation and bureaucratic obstacles. The significance of organizational support systems is highlighted in facilitating expatriates in navigating and surmounting these hurdles, hence facilitating a smoother integration into the business environment.

VI. Conclusion

The present study examines the complex and contradictory obstacles and prospects encountered by organizations that interact with self-initiated expatriates (SIEs) and Social Impact Enterprises in the United States. The results highlight the unique skills and perspectives of SIEs, positioning them as significant resources for firms seeking to improve innovation and adaptation. Exemplary instances demonstrate the effective utilization of Social Impact Enterprises by enterprises, wherein a harmonious equilibrium is achieved between centralized global supervision and individual autonomy. The documentation of challenges encountered by self-initiated expatriates (SIEs) in the United States provides valuable insights on the significance of organizational support mechanisms in facilitating a more seamless integration process. This study examines the distinct opportunities and achievements that firms experience when engaging with SIEs and Social Impact Enterprises. It highlights the potential advantages of collaboration in promoting innovation and social responsibility.

The main findings of the study center around the distinct abilities and views exhibited by Self-Initiated Expatriates (SIEs). This pertains to the exploration of the distinctive abilities and viewpoints possessed by self-directed expatriates, which render them very advantageous to their host businesses. The advantages of firms recognizing, leveraging, and integrating these distinctive characteristics have become evident. The correlation between self-initiated expatriates' assimilation into organizational frameworks and the development of effective approaches to overcome the challenges faced by self-initiated expatriates in the United States has been observed. The research findings indicate that the presence of an expatriate possessing expertise in sustainable development who voluntarily relocates to a different nation results in the introduction of novel viewpoints and innovative approaches. These contributions facilitate the adoption of environmentally friendly practices within a commercial context. It is widely acknowledged that individuals who voluntarily immigrate to the United States encounter several challenges while attempting to engage in economic activities, such as linguistic obstacles and administrative complexities. The findings of this study have significant implications for the fields of human resource management and organizational development. The study provides valuable insights on how businesses may strategically harness the potential of Social Impact Enterprises (SIEs) and foster mutually beneficial collaborations. The incorporation of cultural diversity and work practices is recognized as a significant element that contributes to organizational innovation, highlighting the advantageous effects of integrating diverse cultural viewpoints. This study provides a thorough comprehension of the intricate dynamics associated with the management and utilization of self-initiated expatriates and Social Impact Enterprises within the United States. The opportunities and difficulties that have been highlighted offer useful insights for firms aiming to navigate this distinct landscape, promoting innovation, social responsibility, and effective collaboration.

© 2023 Global Journals

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

Acknowledgements

I'd want to thank the Management & Marketing Department of Grambling State University Louisiana, particularly Dean of Business Dr. White and Chair Person of Management & Marketing Dr. Haile. The engagement of the academics, administration, students, and participants was critical to the success of this research. Finally, I'd like to express my heartfelt gratitude to everyone in my network of friends and family who has been so supportive.

References Références Referencias

1. Ashwini, Esther, Joshua-Gojer. (2016). Cross-cultural adjustment of self-initiated expatriates and individual work performance. (Doctoral dissertation, University of North Texas).
2. Aziz, Madi., Abdelrahim, Alsoussi., Omar, Shubailat. (2023). Self-initiated expatriate's motivation and basic psychological needs – a generalization and extension replication. Journal of global mobility, doi: 10.1108/jgm-09-2022-0049
3. Creswell, J. D. (2017). Mindfulness interventions. Annual review of psychology, 68, 491-516.
4. Eldh, A. C., Årestedt, L., & Berterö, C. (2020). Quotations in qualitative studies: Reflections on con-stituents, custom, and purpose. International journal of qualitative methods, 19, 1609406920969268.
5. Ellis, D. R., Thorn, K., & Yao, C. (2020). Repatriation of self-initiated expatriates: expectations vs. experiences. Career Development International, 25 (5), 539-562.
6. Heidi, Wechtler., Alexei, Koveshnikov., Cécile, Dejoux. (2022). Employment relationships and their implications among self-initiated expatriates. International Journal of Human Resource Management, doi: 10.1080/09585192.2022.2073182
7. Huberman, A. M., & Miles, M. B. (2013). Innovation up close: How school improvement works. Springer Science & Business Media.
8. Leonidas, Dritsas. (2022). Determinants of Self-Initiated Expatriates Resilience. Advances in logistics, operations, and management science book series, doi: 10.4018/978-1-6684-4605-8.ch021.
9. Maike, Andresen., Marshall, Pattie., Thomas, Hippler. (2020). What does it mean to be a 'self-initiated' expatriate in different contexts? A conceptual analysis and suggestions for future research. International Journal of Human Resource Management, doi: 10.1080/09585192.2019.1674359.
10. Maria, Elo., Driss, Habti. (2019). Self-Initiated Expatriation Rebooted: A Puzzling Reality – A Challenge to Migration Research and its Future Direction. doi: 10.1007/978-3-319-95056-3_13
11. Marie-France, Waxin., Chris, Brewster. (2020). The Impact of Host Country Characteristics on Self-Initiated Expatriates' Career Success. doi: 10.4324/9780429352690-4
12. Peterson, J. S. (2019). Presenting a qualitative study: A reviewer's perspective. Gifted Child Quarterly, 63 (3), 147-158.
13. Peterson, J. S. (2019). Presenting a qualitative study: A reviewer's perspective. Gifted Child Quarterly, 63 (3), 147-158.
14. Prashant, Bharadwaj., F., Robert, Buchanan. (2023). Self-initiated expatriates from emerging markets: career benefits arising from personal initiative. Career Development International, doi: 10.1108/cdi-07-2022-0202
15. Ryan, J. (2023). The influence of host country education and professional experience on repatriation intentions: an examination of French long-term self-initiated expatriates in the United States. Journal of Global Mobility: The Home of Expatriate Management Research, (ahead-of-print).
16. Scarlat. (2022). We Are Not Tourists! The Identity Work of Self-Initiated Expatriates. Proceedings - Academy of Management, doi: 10.5465/ambpp.2022.12724.
17. Selmer, J., & Lauring, J. (2012). Reasons to expatriate and work outcomes of self-initiated expatriates. Personnel Review, 41 (5), 665-684.
18. Selmer, J., Suutari, V., & Brewster, C. (2022). Self-initiated expatriates. In Expatriates and Managing Global Mobility (pp. 114-136). Routledge.
19. Shahidi, F., & Zhong, Y. (2011). Revisiting the polar paradox theory: a critical overview. Journal of agricultural and food chemistry, 59 (8), 3499-3504.
20. Subramaniam, Sri, Ramalu., Nida, Iqbal, Malik. (2022). Self-Initiated Expatriates. doi: 10.4018/978-1-7998-9071-3.ch005
21. Vlad, Vaiman., Vlad, Vaiman., Arno, Haslberger., Charles, M., Vance. (2015). Recognizing the important role of self-initiated expatriates in effective global talent management. Human Resource Management Review, doi: 10.1016/J.HRMR.2015.04.004.
22. Waldman, D. A., & Sparr, J. L. (2023). Rethinking diversity strategies: An application of paradox and positive organization behavior theories. Academy of Management Perspectives, 37 (2), 174-192.
23. Waldman, D. A., Putnam, L. L., Miron-Spektor, E., & Siegel, D. (2019). The role of paradox theory in decision making and management research. Organizational Behavior and Human Decision Processes, 155, 1-6.

© 2023 Global Journals

24. Washika, Haak-Saheem., Kate, Hutchings., Chris, Brewster. (2021). Swimming Ahead or Treading Water? Disaggregating the Career Trajectories of Women Self-Initiated Expatriates. British Journal of Management, doi: 10.1111/1467-8551.12465
25. Yap, S. F., & Lim, W. M. (2023). A paradox theory of social media consumption and child well-being. Australasian Marketing Journal, 144135822211394 92.
26. Yusuf, O. (2023). Examining the Hierarchical Criteria That Influence Individuals to Become Self-Initiated Expatriate in the United States of America. Journal of Human Resource and Sustainability Studies, 11 (1), 79-103.
27. Zakaria, N., & Yusuf, B. N. M. (2023). Sacrifices from relocation to a foreign land: Multifaceted challenges experienced by self-initiated expatriate female nurses during cross-cultural adjustment. Current Psychology, 42 (13), 11303-11319.

© 2023 Global Journals

This page is intentionally left blank

© 2023 Global Journals

Global Journal of Management and Business Research: A Administration and Management
Volume 23 Issue 10 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The use of Lean Manufacturing in Process Improvement: The Impacts of Lean Philosophy in a Medium Metallurgy Shipping

By Janyel Trevisol

Abstract- In the current economic scenario and post-pandemic business resumption, the companies are pressed to look for efficient alternatives that reduce costs and provide productive wins. The lean philosophy as well as its organizational improvement methodology is a powerful factor in improving processes, identifying waste, and increasing productivity and efficiency in the productive chain. The lean manufacturing has the purpose of identifying and eliminating waste and looking for perfection in the products, always focusing on the client's vision. This work was carried out in a metallurgical company and had as its main objective to analyze the impact of the lean philosophy in the company and identify the benefits provided by process improvement applications in a medium-sized enterprise. This work used the action research method, which collected information and processes analysis directly in the factory environment for the subsequent development of strategies and improvement plans. Through the application of lean and after the improvement's implementation, it was noted that the lean philosophy and the process improvement generated high productivity gains in the organization, in addition to savings, security, efficient management control, waste reduction, space optimization, process standardization, organization and quality assurance.

Keywords: *lean manufacturing, process improvements, impacts, benefits.*

GJMBR-A Classification: *LCC Code: T55.4-60.8*

THEUSEOFLEANMANUFACTURINGINPROCESSIMPROVEMENTTHEIMPACTSOFLEANPHILOSOPHYINAMEDIUMMETALLURGYSHIPPING

Strictly as per the compliance and regulations of:

© 2023. Janyel Trevisol. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BYNCND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative-commons.org/ licenses/by-nc-nd/4.0/.

The use of Lean Manufacturing in Process Improvement: The Impacts of Lean Philosophy in a Medium Metallurgy Shipping

A Utilização Do Lean Manufacturing Na Melhoria De Processos: Os Impactos Da Filosofia Enxuta Em Uma Metalúrgica De Médio Porte

Janyel Trevisol

Abstract- In the current economic scenario and post-pandemic business resumption, the companies are pressed to look for efficient alternatives that reduce costs and provide productive wins. The lean philosophy as well as its organizational improvement methodology is a powerful factor in improving processes, identifying waste, and increasing productivity and efficiency in the productive chain. The lean manufacturing has the purpose of identifying and eliminating waste and looking for perfection in the products, always focusing on the client's vision. This work was carried out in a metallurgical company and had as its main objective to analyze the impact of the lean philosophy in the company and identify the benefits provided by process improvement applications in a medium-sized enterprise. This work used the action research method, which collected information and processes analysis directly in the factory environment for the subsequent development of strategies and improvement plans. Through the application of lean and after the improvement's implementation, it was noted that the lean philosophy and the process improvement generated high productivity gains in the organization, in addition to savings, security, efficient management control, waste reduction, space optimization, process standardization, organization and quality assurance.

Keywords: lean manufacturing, process improvements, impacts, benefits.

Resumo- No atual cenário econômico e na retomada dos negócios pós-pandemia, as empresas estão pressionadas a buscar alternativas eficientes, que reduzam custos e proporcionem ganhos produtivos. A filosofia enxuta, bem como a sua metodologia de melhoria organizacional é um poderoso fator para aprimorar processos, identificar desperdícios e aumentar a produtividade e eficiência na cadeia produtiva. O *leanmanufacturing* tem o intuito de identificar e eliminar desperdícios e buscar a perfeição nos seus produtos, sempre com o foco na visão do cliente. O presente trabalho foi realizado em uma empresa metalúrgica e teve como objetivo principal analisar o impacto da filosofia enxuta na organização e identificar os benefícios proporcionados pela aplicação de melhoriasde processos em uma empresa de médio porte. O trabalho utilizou o método de pesquisa-ação, no qual foram coletadas informações e análise de processos diretamente no ambiente fabril para posterior elaboração de estratégias e planos de melhorias. Através da aplicação do *lean* e após a implementação das melhorias, observou-se que a filosofia enxuta e o aprimoramento de processos geraram altos ganhos de produtividade na organização, além de economia, segurança, controle gerencial eficiente, redução de desperdícios, otimização de espaços, padronização de processos, organização e garantia de qualidade.

Palavras-Chave: lean manufacturing, melhorias de processos, impactos, benefícios.

I. Introdução

Diante de um mercado altamente competitivo e em meio de uma revolução industrial, as empresas precisam rever seu modelo industrial e buscar alternativas que aprimorem seus métodos operacionais afim de reduzir custos e aumentar a produtividade. O *leanmanufacturing* é uma filosofia oriunda do Sistema Toyota de Produção que visa eliminar todo e qualquer desperdícioe busca a perfeição na qualidade de seus produtos e processos. Esta busca constante por melhorias é um dos fatores que norteiam esta filosofia e fazem com que ela seja escalável para qualquer segmento industrial. Ainda, este modelo tem o cliente como foco em todo seu modelo gerencial, pois é este quem dita as regras às quais os negócios precisam se adequar para atender suas necessidades.

Este trabalho foi realizado em uma empresa metalúrgica de médio porte, situada em Santa Rosa, no Rio Grande do Sul, na qual foram constatados diversos desperdícios industriais e oportunidades de melhorias. Assim, esta pesquisa teve a seguinte problematização: qual é o impacto que a aplicação da filosofia *lean* proporciona à empresa e quais os benefícios que a melhoria de processos proporciona à mesma?

O objetivo geral do trabalho é analisar o impacto da filosofia enxuta na organização e identificar os benefícios proporcionados pela aplicação de melhorias de processos. Este objetivo desdobrou-se nos seguintes objetivos específicos: identificar e analisar os desperdícios industriais, identificar oportunidades de melhorias, implementar as melhorias e analisar seus benefícios.

Author: e-mail: janyeltrevisol@yahoo.com.br

© 2023 Global Journals

Esta pesquisa justifica-se pelo fato de comprovar a eficácia e as vantagens da utilização da filosofia *lean* em uma indústria metalúrgica, evidenciando seu impacto após a aplicação das melhorias de processos, bem como enaltecer os seus benefícios e os seus reflexos ao longo da cadeia produtiva.

II. Referencial Teórico

A filosofia *lean* tem o potencial de melhorar a capacidade produtiva de qualquer empresa. Os seus conceitos básicos são a eliminação de desperdícios, alcançando o máximo de eficiência das linhas produtivas. Por outras palavras, o *lean* não é uma finalidade, mas sim uma estratégia, um caminho a seguir e as ferramentas são a forma de operacionalizar essa mesma estratégia (PINTO, 2008). O *lean* surge como uma forma de modificar os processos produtivos das organizações, buscando mantê-las enxutas o suficiente para que as atividades e os processos de produção sejam realizados com o maior aproveitamento possível (BARRETO *et al*., 2022).

O *leanmanufacturing* está presente nas organizações como forma de aprimorar o processo de produção, evitando desperdícios, otimizando processos, possibilitando a localização de necessidade de melhorias (RODRIGUES, 2016).De acordo com Womack e Jones (2004), o *lean* se fundamenta em cinco princípios: (1) Valor: É o conjunto de caraterísticas pretendidas pelo cliente; (2) Fluxo de Valor: Analisar e apontar quais os processos que acrescentam valor ao longo de todo o sistema produtivo, desde os fornecedores ao cliente; (3) Fluxo contínuo: sem esperas, sem estoque intermediário e sem movimentações desnecessárias; (4) Produção puxada: De acordo com os pedidos do cliente, onde um processo inicia-se apenas quando o precedente o pedir; (5) Perfeição: Através de um processo de melhoria contínua.

Segundo Liker (2005), as melhorias oriundas da disseminação desta filosofia são obtidas através de um estudo detalhado dos problemas encontrados. Para Tavares (2018), a eliminação dos desperdícios, a necessidade em aperfeiçoar os processos e fomentar o bem-estar dos colaboradores contribui para a otimização da competitividade de forma sustentável. Conforme Ohno (2006), no Sistema Toyota de Produção ou *Lean* existem sete tipos de desperdícios que podem ser encontrados: superprodução,tempo de espera, estoque, transporte desnecessário, movimentações desnecessárias, processo excessivo, produtos defeituosos.

O*lean* vai muito além de eliminar o desperdício, pois busca sempre a melhoria contínua nos processos da organização. Essa melhoria engloba desde troca de informações, arranjo físico, limpeza e organização até padronização e mapeamento de fluxo entre outros. Todas essas medidas, quando bem aplicadas, vão gerar a eliminação ou redução dos desperdícios (SILVA, 2017). Os estudos sobre análise e melhoria contínua visam uma análise sistêmica da situação atual na organização, para a detecção de atividades e processos que podem ser melhorados, como gargalos e ineficiência, controles e integração com outros processos, com objetivo de definir suas metas e objetivos, o fluxo de trabalho e, assim, contribua de forma significativa (BARRETO *et al*., 2022).

III. Metodologia

Este trabalho foi realizado em uma empresa metalúrgica, situada em Santa Rosa, no Rio Grande do Sul. O estudo foi realizado mediante o acompanhamento diário das atividades operacionais e dos processos de fabricação. Foram utilizadas algumas ferramentas de qualidade para identificar problemas e encontraroportunidades de melhorias; o*software* Excel para a elaboração de planilhas, gráficos e tabulação de dados; o pacote Office para a elaboração de registros e documentos; registros fotográficos para comparação entre a situação atual e pós melhorias; e o *software*SolidWorks para a elaboração de *layouts* e mapeamento dos processos.

Utilizou-se a abordagem de pesquisa-ação, onde o pesquisador e equipe trocam informações para identificar desperdícios, apontar oportunidades de melhorias, coletar dados e informações e fazer análises das mesmas. Além disso, fez-se também observação direta e acompanhamento detalhado das atividades de fabricação, pesquisa documental, entrevistas informais com colaboradores e, a partir destas, foram identificadas soluções para sanar os problemas identificados.

Primeiramente foi realizada a observação direta e as conversas informais para mapear os processos de fabricação e compreender as nuances que influenciam nos mesmos, e realizar os apontamentos necessários, bem como identificar os tipos de desperdícios. Fez-se também registros fotográficos para comparar a situação atual e após a implementação das melhorias.

Em seguida, foram analisadas estas informações e elaborados planos de melhorias a serem implementados com o intuito de solucionar tais problemas evidenciados. Os planos de melhorias foram apresentados à direção da empresa e, após a sua aprovação, foram implementados e relatados os seus benefícios.

IV. Resultados e Discussões

O presente trabalho foi realizado em uma empresa metalúrgica de médio porte a qual fornece seus produtos para empresas multinacionais do setor agrícola e, por esta razão, a qualidade dos produtos e o

© 2023 Global Journals

aprimoramento constante de seus processos é um fator primordial.

A empresa dispõe de duas plantas industriais: a principal possui uma área industrial ampla na qual os processos são fabricados e expedidos; já a segunda possui uma área industrial menor e são alocadas as matérias primas e se realiza o processo de Corte. A empresa fabrica majoritariamente produtos seriados como peças usinadas, forjadas e fundidas, eixos, pinos, arruelas, conjuntos soldados e encaixes. Entretanto, seus processos flexíveis permitem fabricação de produtos sob medida e customizados. No que tange às matérias primas, são utilizadas barras, chapas e tubos metálicos e de nylon, aço e latão, com mais de 400 diferenciações entre si de acordo com especificações, modelos e propriedades dos materiais.

Com base na filosofia *Lean*, diversos desperdícios industriais podem ser encontrados nas empresas. A seguir estão relatados aqueles evidenciados no ambiente fabril.

- *Processo:* Alguns corpos de prova estão desatualizados e há ausência de calibração de alguns instrumentos de medição utilizados pelos operadores. Além disso, há Procedimentos Operacionais Padronizados (POPs) desatualizados e com longo período sem revisão. Também são criados processos intermediários para "corrigir" erros dos processos anteriores. Tais desperdícios geram erros operacionais, retrabalhos, estoques intermediários, elevado tempo de espera, movimentações e transportes desnecessários.
- *Estoque:* A empresa dispõe de um alto número de mix de matérias primas e, devido ao elevado tempo de entrega da matéria prima pelos fornecedores, a empresa opta por comprar altos volumes para garantir a fabricação dos produtos. Entretanto, este alto volume muitas vezes ultrapassa a real demanda e muitos itens se tornam obsoletos e onerosos. Além disso, pelo fato de serem matérias primas de difícil manipulação devido aos seus pesos, geram problemas como ocupação de áreas nobres, aumento do risco de acidentes, desorganização, controle ineficiente, dificuldade de movimentação de pessoas e transporte de materiais, redução da produtividade.
- *Tempo De Espera:* A programação da produção incorreta é a principal causa deste desperdício. A empresa possui um descompasso grande entre a programação da produção e a real capacidade produtiva, o que gera tempos de espera das máquinas e dos operadores na linha de produção. Além de gerar estoques intermediários, alguns itens programados para serem produzidos em uma determinada máquina acabam sendo alocados em outra devido ao desnivelamento da produção. Entre os problemas identificados por este desperdício destacam-se a obstrução de corredores, extravios e danos materiais, estoques intermediários, logística interna comprometida e aumento do *lead time* de fabricação de alguns produtos.
- *Transporte:* Devido aos estoques intermediários e às obstruções de corredores, algumas rotas de transportes de materiais são alteradas e acabam fazendo com que o operador de empilhadeira realize longas distâncias. As mudanças rotineiras da programação da produção também geram estes problemas, pois não proporcionam um fluxo contínuo. Estes problemas geram custos, além de riscos à segurança, extravios de materiais e dificuldade de controle operacional e gerencial.
- *Movimentação:* Assim como os transportes, as movimentações desnecessárias também são um problema organizacional. A desorganização dos postos de trabalho faz com que os operadores parem sua atividade para procurar ferramentas e equipamentos manuais em outros locais. Além disso, projetos com informações insuficientes ou erros também fazem com que o operador se desloque até o setor responsável para sanar dúvidas, gerando improdutividade no seu processo.
- *Superprodução:* A empresa dispõe de um elevado volume de produto acabadode diversos modelos. Este volume excessivo permanece por muito tempo estocado e muitos acabam se tornando obsoletos ou correm risco de danificação ou extravio. Além disso, caso o cliente altere um determinado projeto ou troque de fornecedor, o produto permanece estocado, pois os produtos acabados são impossibilitados de serem reformados. Assim, o alto estoque de produtos acabados gera custos, ocupa áreas nobres, além de comprometer o planejamento da produção.
- *Produtos Defeituosos:* São diversos os fatores que geram este desperdício, como: falta de manutenções preventivas, ocultação de erros de processos, equipamentos de medição inconfiáveis ou sem calibrações periódicas, falta de um controle rígido dos processos com ações corretivas, erros de projetos ou sem informações suficientes; Procedimentos Operacionais Padronizados (POPs) desatualizados ou sem uma estreita periodicidade de revisões, falta de conhecimento por parte do colaborador.

Entre os prejuízos identificados com tais desperdícios, pode-se citar: desorganização, ocupação de espaços físicos, obsolescência de produtos, custos ocultos, desnivelamento e desbalanceamento da produção, riscos de acidentes, improdutividade, *layouts* incorretos, estoque excessivo de matérias primas, estoques intermediários, dificuldade de controle, extravios e danos materiais, fluxo logístico comprometido, ineficiência operacional e retrabalhos.

© 2023 Global Journals

A partir dos desperdícios apontados, percebe-se os diversos problemas industriais que acarretam em prejuízos à organização e, portanto, faz-se necessárioa elaboração de planos de melhorias a serem desenvolvidas para reduzir ou eliminar taisdesperdícios evidenciados. Fundamentadona filosofia *lean*,foram analisadas oportunidades de melhorias e algumas foram executadas na empresa, conforme podem ser observadas a seguir.

a) Controle E Rastreabilidade De Insumos

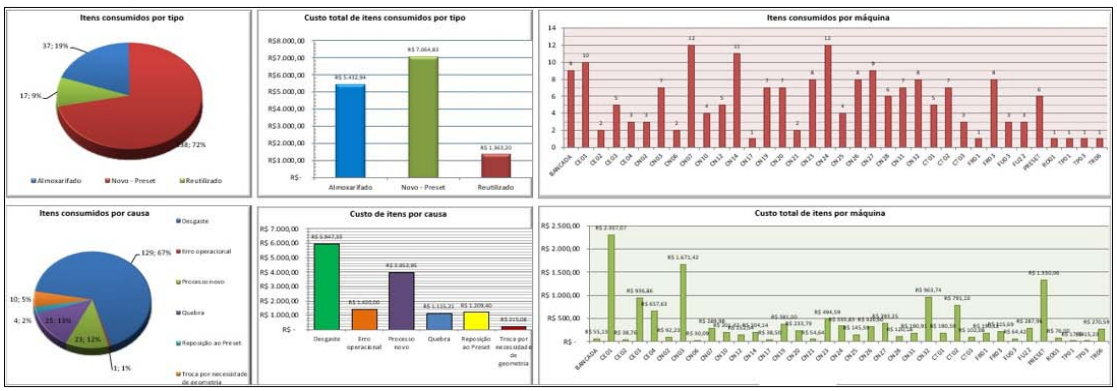
O consumo de materiais e insumos são imprescindíveis para a compreensão dos custos operacionais envolvidas nos processos de fabricação. A rastreabilidade destes itens consumíveis permite uma análise minuciosa e precisa não somente atrelada a custos, mas identificar quais máquinas, processos, operadores os utilizam e, a partir disso, tomar decisões para identificar oportunidades de melhorias para redução destes custos.

A empresa possui dois locais onde estes consumíveis são armazenados: o Almoxarifado, onde são armazenadas ferramentas gerais da produção de maior custo e materiais de escritório de uso geral; e no Preset, onde armazenam-se ferramentas de uso geral, pastilhas, insertos, fresas e outros itens de máquinas. Além disso, nesse setor também se realiza a preparação das ferramentas necessárias para o *setup* das máquinas. Porém, somente há registro automático de insertos, enquanto que os demais itens não possuem registros.

É importante destacar que muitos colaboradores solicitavam itens novospara terminar uma operação pelo fato de estarem gastos. Assim, o responsável do Preset descartava este item e fornecia um novo. Entretanto, estes mesmos itens poderiam ser reutilizados em outras operações que não necessitassem tanta perfeição na operação. Assim, após a implantação da nova metodologia de mapeamento no Preset, esta reutilização do item ao máximo foi fortemente aplicada e cobrada pelo responsável do setor.

Primeiramente fez-se a coleta de alguns dados: os itens armazenados no Preset e seus respectivos custos, identificação das máquinas edos colaboradores que retiram materiais do Preset. Além disso, foram estabelecidas algumas causas potenciais da necessidade de troca de itens e, assim, cada colaborador que solicita um novo item precisa informar a causa de sua solicitação e devolver o item usado ao Preset. As causas potenciais estipuladasforam: Alteração de matéria prima; Desgaste; Erro operacional; Extravio; Não controle do cavaco; Processo novo, Programa incorreto; Quebra; Reposição, Troca por necessidade de geometria.

A partir da compilação dos dados, estruturou-se uma planilha digital a ser preenchida no setor, na qual permite identificar dados de máquinas, operadores, custos, quantidades e causas potenciais para solicitação de um item novo. Ao solicitar um item, o responsável do setor preenche os dados no computador e tais informações geram gráficos em tempo real que são armazenados em um banco de dados. Estes gráficos automaticamente constituem um *Dashboard* o qual somente gestores e supervisores tem acesso. Alguns gráficos presentes no *Management Dashboard* podem ser visualizados na Figura 1.



Fonte: O Autor (2022).

Figura 1: Alguns Gráficos Utilizados no Management Dashboard

O *Management Dashboard* é um painel interativo de gerenciamento no qual contém informações em tempo real do consumo de itens na fábrica. Este painel é composto por dez gráficos e permite que o gestor filtre as informações que deseja através de parâmetros como período, setor, máquina, operador, descrição do item e causa e, assim, obtenha dados referentes a quantidades e custos envolvidos.

b) Organização Dos Postos De Trabalho

Todos os postos de trabalho do setor de Usinagem possuem uma bancada de trabalho. No entanto, esta bancada não possui padronização e há excesso de materiais e ferramentas desnecessárias, que acabam mantendo o setor desorganizado. A Figura 2 demonstra um exemplo de bancada em um dos postos de trabalho.

© 2023 Global Journals



Fonte: O Autor (2022).

Figura 2: Exemplo De Uma Bancada De Trabalho

Através da Figura 2, nota-se que o local está desorganizado, há restos de materiais armazenados em caixas, o quadro sombra não é utilizado corretamente tornando o mesmo inútil, ferramentas alocadas sem ordem ou agrupamento. Estes fatores mencionados geram dificuldade para o operador encontrar a ferramenta necessária, além do risco de extraviar ou danificar algum equipamento de medição.

Deste modo, para otimizar a bancada de trabalho, mapeou-se as necessidades de cada posto de trabalho baseando-se em seus produtos de fabricação e fez-se uma coleta dos materiais e ferramentas, permanecendo na área somente o que fosse realmente necessário. Na limpeza de 18 postos de trabalho, coletou-se 612 itens, entre ferramentas, insertos, lixas, parafusos, pinças e chaves os quais foram devolvidos ao Preset. Além disso, também foram descartados aproximadamente 50 kg de materiais danificados e sucateados, conforme a Figura 3.



Fonte: O Autor (2022).

Figura 3: Materiais Retirados Dos Postos De Trabalho

© 2023 Global Journals

Para padronizar as bancadas, fez-se um estudo da real necessidade de ferramentas para os postos de trabalho e elaborou-se um projeto de uma bancada padrão, a qual é compacta, com quadro sombra somente com as ferramentas necessárias e com rodízios que facilitam sua movimentação na célula de trabalho. Entretanto, os materiais foram fabricados por uma empresa terceirizada e, assim que estiverem prontos, serão montados e implementados na fábrica.

Outro fator relevante relacionado ao posto de trabalho é que os mesmos possuem estoques intermediários, além de restos de matérias primas e sobras, o que gera acúmulo de materiais desnecessários, má utilização da área, maior tempo e dificuldade para identificar o material desejado, risco de mistura de matérias primas com sobras, má organização. Além disso, algumas máquinas enfrentam problemas por falta de manutenções periódicas e acabam comprometendo a qualidade do processo ou gerando sujidades no local através do derramamento de água e óleos.

c) Seleção E Recolhimento De Redutores Ociosos Do Setor De Usinagem

Cada torno CNC de usinagem dispõe de um conjunto de redutores os quais são usados para introduzir e fixar as barras na máquina para realizar as operações. Cada redutor possui características específicas e, por esta razão, são utilizados para fabricar produtos específicos. Assim sendo, ao lado de cada máquina há uma estrutura para alocar os redutores utilizados na respectiva máquina. Entretanto, muitos redutores que ainda eram mantidos nas estruturas estavam obsoletos, pois as peças as quais este fabricava já haviam saído de linha. Além disso, não há nenhuma identificação dos redutores, fazendo com que algumas vezes o operador despendesse algum tempo para identificar o redutor que seria necessário para a operação. A Figura 4 demonstra uma estrutura com redutores ao lado de um torno CNC.



Fonte: O Autor (2022).

Figura 4: Redutores Alocados Em Estrutura Ao Lado De Um Torno CNC

As estruturas de redutores, bem como a manutenção de redutores ociosos nas estruturas provocam acúmulo de matérias e obstrução de espaços, riscos físicos aos colaboradores por se tratarem de materiais pesados, desorganização, dificuldade e perda de tempo para o operador encontrar o redutor necessário à operação.

Para sanar este problema, foram coletados dados referentes aos produtos fabricados por cada máquina e seus respectivos redutores. Após esta análise, verificou-se que 112 redutores estavam ociosos ou raramente eram utilizados e, assim, os mesmos foram realocados na Ferramentaria, conforme a Figura 5. Os redutores encaminhados à Ferramentaria foram organizados conforme a máquina à qual eles pertencem para facilitar a identificação.

© 2023 Global Journals



Fonte: O Autor (2022).

Figura 5: Estrutura Para Alocação De Redutores Na Ferramentaria

Assim, esta melhoria foi de encontro com o que preza a filosofia enxuta, pois deve-se manter no local de trabalho somente aquilo que for necessário para a operação. Tais materiais retirados das estruturas ao lado de cada torno CNC proporcionaram maior segurança e controle, agilidade e eficiência na logística interna, maior produtividade, otimização do local, organização, desobstrução de corredores e melhor visibilidade.

d) Cronoanálises

A cronoanálise é um elemento chave para identificar a capacidade produtiva e proporcionar uma programação de produção mais assertiva para melhorar o nivelamento e o balanceamento da produção. A empresa não possui uma cronoanálise precisa dos processos e os tempos de fabricação são estipulados conforme uma suposição dos gestores. Além disso, processos como inspeção, contagem e rebarba não possuem tempo estipulado e, assim, comprometem a identificação correta do *lead time* de fabricação. Assim sendo, verificou-se a necessidade de haver cronoanálise em todos os processos para proporcionar maior assertividade e precisão na análise da real capacidade produtiva. A Figura 6 demonstra a cronoanálise de dois tipos de peças.

Nº	Peça	Cód			Descrição								
		17080049			Bucha externa balancin								
1	Tempo	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	MÉD.
		00:00:40	00:00:46	00:00:50	00:00:42	00:00:46	00:00:50	00:00:51	00:00:50	00:00:59	00:00:45	00:00:50	00:00:48
	Peças	100	100	100	100	100	100	100	100	100	100	100	100

Nº	Peça	Cód			Descrição								
		A112543			Bucha								
2	Tempo	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	MÉD.
		00:00:50	00:00:56	00:00:47	00:00:47	00:00:52	00:00:51	00:00:45	00:00:50	00:01:36	00:01:34	00:00:57	00:00:59
	Peças	100	100	100	100	100	100	100	100	100	100	100	100

Fonte: O autor (2022.)

Figura 6: Cronoanálises Do Processo De Contagem De Peças

Na Figura 6 é possível identificar que foram realizadas onze medições de lotes contendo 100 peças cada e, ao final estipulou-se uma média. A peça de número 5 obteve a média de 48 segundos enquanto a de número 6 obteve 59 segundos de média. Estes valores foram cadastrados no sistema e, assim, foram contabilizados na programação da produção e passaram a ser inseridos nas ordens de produção na fábrica, proporcionando maior assertividade na identificação dos tempos operacionais.É importante manter os dados sempre atualizados, ou seja, a cada melhoria de processo, deve-se realizar uma nova cronoanálise e atualizar as informações no sistema.

© 2023 Global Journals

e) *Organização Setorial E Demarcação De Área Para Recebimento De Matéria Prima*

Os caixotes de matérias primas anteriormente eram alocados diretamente nos postos de trabalho, gerando acúmulo e obstrução de espaços, desorganização e falta de controle de tais materiais. Caso não haviam mais espaços vagos para esta alocação nos postos de trabalho, as matérias primas eram disponibilizadas em uma área no fundo da fábrica, sem organização ou ordenação e juntamente com outras máquinas ou equipamentos. A Figura 7 demonstra a área situada no fundo da fábrica ocupada com matérias primas, máquinas e materiais de descartes.



Fonte: O Autor (2022).

Figura 7: Desorganização E Má Ocupação De Área

Para estimular e iniciar a produção puxada, estabeleceu-se um novo método de trabalho, na qual o material oriundo do Corte é alocado em uma área no fundo da fábrica separado por tipo de máquina através de baias e organizado sequencialmente conforme a programação. A Figura 8demonstra a otimização da área e as demarcações das baias para alocar as matérias primas conforme a máquina. Destaca-se ainda que estas baias estão identificadas para agilizar e facilitar a sua identificação.



Fonte: O autor (2022).

Figura 8: Área Organizada E Demarcada Para O Recebimento De Matéria Prima

© 2023 Global Journals

O método para impulsionar o sistema puxado ocorre da seguinte maneira: o operador de logística abastece cada posto de trabalho com os caixotes alocados no local demarcado; quando o operador de máquina terminar o consumo de um caixote, o mesmo estará vazio ao lado da máquina; neste momento, o operador de logística irá buscar outro caixote com matéria prima desta área e abastecerá novamente a máquina; este processo será realizado em todas as máquinas de usinagem. Assim, nos postos de trabalho somente haverá a quantidade de matéria prima necessária e o abastecimento ocorrerá somente mediante o caixote vazio no posto de trabalho.

A próxima etapa a ser estudada e desenvolvida é aprimorar e estimular o sistema puxado diretamente do setor de Corte, pois atualmente o Corte realiza a operação e encaminha para esta área na fábrica gerando um pequeno estoque intermediário. O objetivo desta nova etapa é eliminar e reduzir o estoque, bem como os transportes de materiais e deslocamentos desnecessários pela logística.

V. Conclusão

A filosofia *lean* é um sistema de gestão organizacional constituído por métodos, técnicas e ferramentas que aprimoram os sistemas produtivos a partir da constante eliminação de desperdícios e da melhoria contínua. Através do que foi exposto neste trabalho, percebe-se a relevância da utilização do *leanmanufacturing* no ambiente industrial, pois foram obtidos e evidenciados diversos impactos positivos e benéficos à empresa.

O presente trabalho atendeu a todos os seus objetivos, pois foram identificados e analisados os tipos de desperdícios industriais na empresa, identificou-se oportunidade de melhorias a serem implementadas, realizou-se a implementação das melhorias e analisou-se os seus benefícios. Deste modo, foi possível identificar o impacto da filosofia enxuta na organização identificando estes benefícios a partir das melhorias realizadas.

Portanto, conclui-se que o *lean* possui um elevado impacto positivo na empresa e a disseminação desta filosofia em todos departamentos da empresa é de fundamental importância para obter os diversos benefícios por ela proporcionados. Referindo-se a tais benefícios evidenciados coma as melhorias, pode-se destacar a redução de desperdícios, redução de custos, controle produtivo mais eficiente, padronização, limpeza e organização, maior segurança, otimização de espaços físicos, redução e estoques intermediários, logística interna mais eficiente, redução de *lead time*, maior visibilidade, garantia da qualidade e aumento da produtividade.

References Références Referencias

1. BARRETO, K. O.*et al*. *Benefícios do Lean healthcare em um centro de especialidades médicas.* Brazilian Journal of Development, Curitiba, v.8, n.1, p. 6771-6789, jan. 2022. ISSN: 2525-8761.
2. LIKER, J. K. *O Modelo Toyota.* Ed. Bookman, Porto Alegre, 2005.
3. OHNO, T. *Sistema Toyota de Produção: Além da produção em larga escala.* Porto Alegre: Ed. Bookman, 2006.
4. PINTO, J. P. *A criação de valor através da eliminação do desperdício.* Comunidade *Lean*, 2008.
5. RODRIGUES, M. V. *Sistema de Produção Lean Manufacturing.* 2 ed. Rio de Janeiro: Elsevier, 2016.
6. SILVA, J. L. *Aplicação das ferramentas da qualidade para melhoria de processos produtivos estudo de caso em um centro automotivo.* In: ENCONTRO NACIONAL DE ENGENHARIA DE PRODUÇÃO, 37, 2017, Joinville. Anais [...]. Joinville: Enegep, 2017. p. 1-16. Disponível em: http://www.abepro.org.br/biblioteca/tn_sto_238_383_30942.pdf. Acesso em 29 abr. 2022.
7. TAVARES, P. R. S. *Logística Lean: Aplicando as ferramentas lean na cadeia de suprimentos para gestão e geração de valor.* MAG Editora, 2018. ISBN: 9788567839172.
8. WOMACK, J. P.; JONES, D. T. *A mentalidade enxuta nas empresas: elimine o desperdício e crie riqueza.* Rio de Janeiro: Elsevier Editora, 2004.

© 2023 Global Journals

This page is intentionally left blank

© 2023 Global Journals

Global Journal of Management and Business Research: A Administration and Management
Volume 23 Issue 10 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Navigating Early Career Management: Workplace Experiences and Career Impact

By Émilie Giguère, Mariève Pelletier, Jade Avoine, Geneviève Girard & Mireille Sirois Gagné

Université Laval Pavillon des sciences de l'éducation

Abstract- This article explores the workplace experiences of young professionals during their early integration into management roles and their implications for career development. Employing a qualitative research approach, the study conducted one-on-one interviews with 61 participants. The findings reveal a diverse range of workplace experiences that can either facilitate or complicate the integration process. Notably, the study sheds light on the persistence of gender-related issues in these early career stages. The research offers practical insights for organizations and guidance counselors and underscores the need for further exploration in this field.

Keywords: *managers; early-career; career progression; gender.*

GJMBR-A Classification: *JEL: M12, M54*

NAVIGATINGEARLYCAREERMANAGEMENTWORKPLACEEXPERIENCESANDCAREERIMPACT

Strictly as per the compliance and regulations of:

© 2023. Émilie Giguère, Mariève Pelletier, Jade Avoine, Geneviève Girard & Mireille Sirois Gagné. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BYNCND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative-commons.org/ licenses/by-nc-nd/4.0/.

Navigating Early Career Management: Workplace Experiences and Career Impact

Naviguer Dans La Gestion Du Début De Carrière: Expériences Sur Le Lieu De Travail Et Impact Sur La Carrière

Émilie Giguère [α], Mariève Pelletier [σ], Jade Avoine [ρ], Geneviève Girard [ω] & Mireille Sirois Gagné [¥]

Abstract- This article explores the workplace experiences of young professionals during their early integration into management roles and their implications for career development. Employing a qualitative research approach, the study conducted one-on-one interviews with 61 participants. The findings reveal a diverse range of workplace experiences that can either facilitate or complicate the integration process. Notably, the study sheds light on the persistence of gender-related issues in these early career stages. The research offers practical insights for organizations and guidance counselors and underscores the need for further exploration in this field.

Keywords: managers; early-career; career progression; gender.

Résumé- Cet article explore les expériences professionnelles des jeunes professionnels au cours de leur intégration précoce dans des rôles de direction et leurs implications pour le développement de carrière. Utilisant une approche de recherche qualitative, l'étude a mené des entretiens individuels avec 61 participants. Les résultats révèlent une diversité d'expériences de travail qui peuvent faciliter ou compliquer le processus d'intégration. L'étude met notamment en lumière la persistance des problèmes liés au genre à ces premiers stades de carrière. La recherche offre des informations pratiques aux organisations et aux conseillers d'orientation et souligne la nécessité d'une exploration plus approfondie dans ce domaine.

Mots-Clés: cadres; débuts de carrière; progression de carrière; genre.

I. Introduction

In recent years, the issue of career development for managers has attracted the interest of a good number of researchers and professionals (Adamson et al., 2022; Bishu et al., 2022; Thaller et al., 2023). In this field, studies on careers in management conducted with cohorts of women reveal the persistence of ethnic (Alesia, 2017)or gendered (Alesia, 2017; Bates & Holt, 2021; Ekonen & Heilmann, 2021; Ezzedeen et al., 2015; Vaz et al., 2023) prejudices and stereotyping, as well as microaggressions (mansplaining, manterrupting) (Vaz et al., 2023) that hold women back from management positions. Similarly, corporate culture in the form of working long hours or lack of authority in relation to supervised staff also continue to hinder women's careers (Lama, 2015). Crowning these struggles is the demanding responsibility for household chores, and the complex burden of reconciling the latter with professional duties, which compel women in management positions to muster different strategies to strike a certain balance (Bates & Holt, 2021; Bishu et al., 2022; Ezzedeen et al., 2015; Giguère et al., 2023; Michaelides et al., 2023; Shaw & Leberman, 2015).Moreover, a small number of studies on women managers have evidenced the deep-seated role of social gender relations from the very beginning of their post-secondary training and socio-professional integration (Giguère et al., 2020). Conversely, other research focused on women reveals the importance of training (Sexton et al., 2014), networking (Ekonen & Heilmann, 2021) and the support of a superior or access to a mentor, all of which can be levers for women's careers(Baumgartner & Schneider, 2010; Bishu et al., 2022; Guptill et al., 2018; Michaelides et al., 2023; Sexton et al., 2014).

Studies carried out with mixed cohorts of men and women show that professional work experience, high career mobility and leveraging networks are key career accelerators (Thaller et al., 2023). They also expose gender-related issues in the area of work-life balance, in particular the more complex and tenuous high-wire act mothers at a higher risk of imbalance must perform, fueling frustration and anxiety (Adamson et al., 2022). For male managers, the need to reconcile managerial work and family life is less pronounced, suggesting a disproportionate share of housework falls on their spouses (Adamson et al., 2022). Despite significant advances in understanding professional career development issues facing both men and women, few of these studies can be used to identify and examine the experiences of young managers as they enter the work place in their early days of their professional careers.

The aim of this article is to identify and examine these early-career workplace experiences and their possible impacts on career progression, using a theoretical framework that combines a life course approach (Fournier et al., 2016) and living work theory (Dejours, 2009; Molinier, 2008). First, however, we will provide a context for our study with an overview of

Author α σ ρ ω ¥: Université Laval Pavillon des sciences de l'éducation 2320 rue des Bibliothèques, Québec, Canada.
e-mail: emilie.giguere@fse.ulaval.ca

© 2023 Global Journals

recent scholarship on the characteristics of managerial work in the rapidly transforming workplace.

II. Characteristics of Managerial Work in a Context of Workplace Transformation

Since the turn of the millennium, major transformational change has swept through the workplace and dramatically redefined both work and the ability of managers to assume their roles and remain employed. Well before COVID-19, studies had shown that managerial work was heavily affected by constant organizational restructuring, a manifest tendency to rationalize the workforce and often incredibly unrealistic and short-term performance target plans (Foster et al., 2019; Harris & Ogbonna, 2020; Hassard et al., 2012; Mercure, 2018; Trudel & Gosselin, 2010; Worrall & Cooper, 2014). Some studies have highlighted the downside of this new work, including the rise to dominance of the shareholder-focused market and intensive and short-term capital appreciation (Bal & Dóci, 2018; Deakin & Wilkinson, 2011; Hassard et al., 2012; Kochan et al., 2019), intensified competition in the global market (Farrell & Morris, 2013; Harris & Ogbonna, 2020; Kochan et al., 2019; Ross et al., 2017; Worrall & Cooper, 2014), and the varied models of agility aimed at minimizing production costs and maximizing organizational efficiency (Durand, 2018; Farrell & Morris, 2013; Kochan et al., 2019; Taskin et al., 2017; Yadav et al., 2017). Others have pointed to the shift towards a management system increasingly focused on corporate performance, profitability and productivity (Alvesson et al., 2017; Bal & Dóci, 2018; Taskin et al., 2017; Yadav et al., 2017), and escalating demands from shareholders and customers(Foster et al., 2019; Trudel & Gosselin, 2010). These changes are also reflected in an economy increasingly based on further enhancing services and new forms of customer-driven pressures (du Tertre, 2013; Durand, 2018; Mercure, 2017). Managers now see their performance revolve around financial targets as the sole organizing dimension of their work, yet their duties involve many other aspects that shape their workplace experiences (de Gaulejac & Hanique, 2019; Dujarier, 2015). This transformative change in the organization of work is spurred by a discernible individualistic culture based on achieving targets and incentive compensation systems (e.g., salary increases, bonuses)(Foster et al., 2019). All these organizational pressures can present managers with a decline in working conditions, an increase in workload and a decrease in autonomous decision-making (Hamouche, 2019; St-Hilaire & Gilbert, 2019). Studies show, in fact, that managerial work is burdened by a prolife ration of demands and performance objectives (Cousin & Mispelblom Beyer, 2011; Farrell & Morris, 2013; Fortier, 2018; Harris & Ogbonna, 2020; Worrall & Cooper, 2014)¸ a lack of resources (e.g., time, financial) to develop service activities and manage direct reports (Cregård & Corin, 2019; Mhiri & Teneau, 2015), work overload due to added administrative tasks (Cregård & Corin, 2019; Créno & Cahour, 2016; Mhiri & Teneau, 2015; Pelletier, 2014), and more fragmented, sporadic work activities (Alvesson et al., 2017; Bobillier Chaumon et al., 2018). In some cases, managers are boxed in, confronted by the conflicting demands and complex workplace experiences at the heart of ethical dilemmas, and find themselves increasingly on their own as a result of competitive relationships that lead to individualization and a weakened sense of identity(Alvesson et al., 2017; Giguère et al., 2020; Cousin & Mispelblom Beyer, 2011; Pelletier, 2014). As their professional responsibilities ramp up, this new world of work pushes managers to commit to longer working hours (Farrell & Morris, 2013; Glée-Vermande & Beyer, 2012; Harris & Ogbonna, 2020; Pelletier, 2014) and poses health risks, in particular burnout (Eurofound, 2019; Worrall & Cooper, 2014). All these findings raise major concerns about integrating and retaining managers- specifically young professionals in the early stages of their careers- against this evolving landscape of transformation. In this respect, some researchers have pointed out these changes also have an impact on the workplace integration process, particularly for younger generations, whose career progressions tend to be more fluid, unstable, irregular and uncertain (Danvers, 2018; Guichard, 2018; Vultur & Bernier, 2014). Yet this sub-group of young professionals remains an under-researched population, both in studies on managerial work (Barley & Kunda, 2001; Gjerde & Alvesson, 2020; Korica et al., 2017), organizational changes and the shifting roles of managers (Farrell & Morris, 2013; Hassard et al., 2012; Worrall & Cooper, 2014), and the impacts these changes have on the limitations and uncertainties of career development (Farrell & Morris, 2013; Hassard et al., 2012). It would thus warrant to examine the workplace experiences of young managers as they step into professional roles and the effects of these changes on their careers. The next section introduces our theoretical framework, which combines a life course approach (Fournier et al., 2016)with living work theory (Dejours, 2009; Molinier, 2008).

III. Theoretical Framework

a) *Life Course Approach*

Used in the field of guidance counselling to analyze career paths, a life course approach (Fournier et al., 2016) considers several elements: labour market transformations and their impact on life courses (Kohli, 2009), constructivist and systems theories of career development (Patton & McMahon, 2014; Savickas et al., 2009; Young & Valach, 2008) and sociology research on life courses (Elder, 2009; Lalive d'Epinay et al., 2005).

© 2023 Global Journals

We chose this theoretical approach specifically to identify the temporality of professional integration for young managers, particularly their experiences as they begin their management role and navigate the ecosystem of a new workplace (Fuchs, 2011). The concept of experience, on the other hand, considers dimensions relating to the way in which individuals live through different events contextualized over the course of their lives (Craig, 2008) and the content of the experience lived as inseparable from the effects it engenders (Jodelet, 2006).

b) Living Work Theory

Living work theory provides a particularly inventive and relevant theoretical perspective for understanding the human side of work, namely through the lens of the employee's workplace experiences, including visible and invisible dimensions of work (Dejours, 2009, 2018; Giguère et al., 2022; Molinier, 2004; St-Arnaud & Giguère, 2018).The living aspect of work refers to the notion that as the employee changes their work, they are changed in turn. This theory makes it possible to interpret the gap between objectives set by the organization of the work (*prescribed work*) and what needs to be done to achieve them (*actual work*) (Dejours 2009). It also allows to grasp, using the employee's lived workplace experiences, the invisible part of work and what this involves on the subjective level, namely the way people mobilize their actions, skills and ability to feel, think and interpret. Also considered in this theory are dynamics underpinning employee relationships and cooperation, power relations in and through work, and new forms of work organization (Dejours, 2009; Dejours et al., 2018). In this regard, living work theory can examine persistent gender issues in men's and women's relationship to work (Galerand & Kergoat, 2017; Hirata & Kergoat, 2017). Also crucially important in this theoretical perspective are the individual's own words, the rebuilding of meaning they attribute to their experience as well as an examination of the subjective and inter subjective dynamics experienced (Dejours, 2009). Overall, our analytical framework of a life course approach combined with living work theory makes it possible to capture the workplace experiences of young managers as they integrate into their professional roles.

IV. Methodology

To identify and examine the workplace experiences of young managers as they integrate professionally and how this impacts their career progression, a qualitative study design using narrative inquiry (Lieblich et al., 1998) was employed. Narrative inquiry is an effective strategy for researchers to get participants to reveal through rich stories the meaning they give to events they have experienced (Bujold, 2004).

An interview guide was created to outline and inquire about various themes, including career paths, managerial experiences and links between work and life-planning, without resorting to formulating specific questions. Lasting about 90 minutes each, one-on-one interviews began with a broad opening question to help participants ease into the interview themes (e.g., career paths, workplace experiences, balancing different spheres of life). These interviews were carried out in stages so that materials could be analyzed throughout the collection process in an iterative loop between fieldwork and theory (Paillé & Mucchielli, 2016). This process made it possible to analyze the new material as it was produced, in particular to clarify certain aspects that would help direct subsequent interviews and open up new questions (Paillé & Mucchielli, 2016).

a) Recruitment

To ensure diverse participation in our study, the strategy used was to contact different organizations and relevant players in the field of early-career managers. The methodological principles of data saturation and diversification were employed in order to create a homogenous sample for individual interviews (Merriam & Tisdell, 2016). Saturation allowed to delve deeper into the research subject and consider criteria comparable to all participants. These criteria were: 1) holding a managerial position in the service sector and 2) having been in a managerial position for at least 2 years but no more than 10. Diversification fine-tuned the "internal diversity" of the sample based on a range of criteria to maximize the intensive study of the research subject within the group of female participants. These criteria included gender, hierarchical level, initial training, conjugal status and family situation. In all, 61 participants- 37 women and 24 men- took part in the one-on-one interviews.

b) Processing and Analysis

Inspired by Paillé and Mucchielli (2016),a phenomenological examination of the materials collected was carried out by attentively listening to the interviews and carefully reading and rereading the interview transcripts. Concurrently with this material immersion, analytical work using conceptualizing categories (Paillé & Mucchielli, 2016; St-Arnaud & Giguère, 2018) was undertaken to better abstract the workplace experiences of young managers during their professional integration. The conceptualization of categories allowed to gradually classify phenomena directly from the interviews, by comparing them with each other, as well as carrying out iterative step-by-step "theoretical constructions" (Paillé and Mucchielli, 2016). More specifically, categories were created dynamically through analytical description, interpretative deduction and inductive theorizing (see Annex 2 of St-Arnaud & Giguère, 2018; Paillé & Mucchielli, 2016). The notable contribution of the present study lies in this iterative

© 2023 Global Journals

process between the knowledge produced in the field of young managers' career development, the results and its theoretical framework. The processing and analysis of the interview materials allowed for a more granular understanding of workplace experiences during professional integration, and possible impacts on career progression.

V. Results

The processing and analysis of the interview materials provided the data to group the varied workplace experiences of early-career managers into two broad categories: workplace experiences that facilitate integration and workplace experiences that complicate it. These will be discussed at length in this section.

a) Workplace Experiences that Facilitate Integration

Some participants in our study recounted workplace experiences that facilitated their professional integration into management roles. The sub-categories that follow illustrate experiences that made the integration process easier.

i. Support from a Superior or External Professional

A number of participants said they had received support from their superior or an external professional (e.g., a certified coach) in discussing aspects of managerial work they had questions about (such as the technical or relational side of management) or more specific workplace experiences. For example, they had been able to discuss with their superior how to objectively delegate an onerous task between two teams, run questions by them or get support in tricky work situations through more horizontal communication. These influential individuals may also have acted as mentors, sharing observations about strengths and areas for improvement in their mentees' managerial work, or they may have promoted and championed the latter's career advancement, for example, through helping them land a promotion:

> *Actually, me, it was the General Manager who knew me, he'd known me from a previous job because we'd worked together at X [mentions name of a public service organization]. He knew I was on the list; he knew I'd be interested and so, he was looking for an X [mentions mid-level management position] and he approached me: "Are you interested?" So that's when I was able to apply. So, this also gave me the chance to find out that this job existed. So honestly it was thanks to that connection that I was able to apply and be chosen.- Émile*

> *So I had this mentor, and I'd asked my assistant director to give me her feedback—sometimes in some situations, to improve myself as a person, of course. Everything was all new to me. Although it worked out very well in the end, for sure there are moments when you question yourself and then think: "Oh, what did I get myself into? That's a big challenge!" [...] I've also been lucky to have FIRST-RATE managers. So, my bosses have been there for me through it all.– Gisèle*

The possibility of building a trusted relationship with a superior or mentor may have also brought them a degree of autonomy and freedom to organize their managerial work—for example, in setting up their work teams or leading a project, as in Zora's case:

> *I've been here at X [mentions name of the organization] now for X [mentions number of months, less than one year] [...] I'm given a lot of freedom; they trust me. Even though I've been here less than a year, I've built my team […]people I already knew, but they had confidence in me to integrate them into the team, so this let us make much more progress on the implementation of lots and lots of projects and lots and lots of priorities.– Zora*

ii. Taking Part in Training and Support Activities

Being encouraged to take part in training or support activities (e.g., corporate training programs) helped many to acquire a number of tools, reflect on managerial work, and become more familiar with resources that would facilitate the process of easing into their management roles. They said these activities made it easier for them to prepare for their integration:

> *At X [mentions name of the organisation], though, there is a very interesting program called X [mentions name of program]. It's a very interesting program, actually, it gives us with tools, a refresher course and a guide that shows what to expect during the first 100 days on the job. After that I did some reading and took it very seriously. Indeed, those first 100 days are all about getting ready for the job. – Gisèle*

> *In fact, there is something called X [mentions name of the leadership training program and provides a few details about it]. The way it works is that you have to be recommended by your superior, and they receive dozens, if not hundreds, of applications every year. You go through an interview, and some are chosen [mentions number, fewer than 50], and so I was chosen out of the X group [mentions name of his group]. We started a little over [mentions how long, less than 2 years], so it's—it's a bit, and I don't like to boast, but it's—it's intended for managers who have a high potential for advancement and development. So, I'm in it too, and it's really very, very helpful and instructive. It's—it's a great program.– Emerick*

iii. Having held One or more Positions in the Organization

Holding one or more positions in their organization before moving into a management role gave some managers a head start in becoming familiar with the environment as a whole- work culture and organization, staff, ways of operating, where to find

© 2023 Global Journals

support- which may have made it easier for them to integrate and be offered a promotion once they graduated:

I worked part-time in a retail business [...] That's when I got the bug, and that's what made me switch programs instead of finishing my pre-university CEGEP program X [mentions name of her program]. I decided to do X [names her college program, in management] instead [...] When I graduated, well, I had been working part-time in a retail business, and my X [names her boss] he gave me a lot of duties. He gave me lots of responsibilities [...] When I finished my X [mentions name of her college program], I transferred to a new store. [...] I landed X [names her supervisor job] over there. - Marlène

I work for the family business, and so I was kind of destined to move up the ladder eventually. So, when I finished my university, I fully joined the company as X [mentions professional position in sales and service].- Adrien

In short, the processing and analysis of the interview materials revealed that having support from a superior or an external professional, taking part in training or support activities, or having held one or more positions in the organization can help young men and women ease into management positions. These findings are largely in line with other studies on women in management that have highlighted the importance of career development training(Sexton et al., 2014), the support of a superior or access to a mentor as career levers (Baumgartner & Schneider, 2010; Bishu et al., 2022; Guptill et al., 2018; Michaelides et al., 2023; Sexton et al., 2014). In fact, it is reasonableto conclude that being able to share one's workplace experiences and supportive relational dynamics (Dejours, 2009)- particularly through training activities or one-on-one support from a superior or an external professional- from the moment they enter theirrole empowersboth young men and womento hone their professional skills and further their careers. Thesefindings also show that having held one or more positions in the organization can beafacilitating factor in the integration of young managers, particularly since they have a head start in terms of their knowledge of the staff and practices in the organization. This also echoesmixed-cohort studies by Thaller et al. (2023), that show the most important levers for career progression are professional work experience, highmobility and networking. Simply put, having held several positions in the organization, the support of a mentor or superior and developing their network can helpyoung men and women integrate professionally into management.

b) Workplace Experiences that Complicate Integration

On the other side, some participants related workplace experiences that complicated their integration into professional roles. The sub-categories that follow illustrate some of these complex experiences.

i. *Mismatches Between Accumulated Knowledge and the Demands of Management Work*

The mismatch between knowledge accumulated from previous training and job experiences and the demands of managerial work- such as being able to square the different facets of material, financial and human resources- left some participants feeling that something was lacking:

So, I was apprenticing a lot. And like it or not, there's no written manual on how to become a manager, there's no particular formula that can help us become managers. Sure, they have training courses at X [mentions name of the educational institution] to train people, just to go and find training, but the human relations aspect of it, anything that has to do with dealing with people, I think that... it's something we either have or don't; it's not necessarily something that can taught. - Mathias

This mismatch was also noted when integrating into a new position during a labour shortage, as it was often done swiftly without first having all the necessary resources and support, as Fanny attests:

We're in an age where I find we're losing a lot of expertise. Boomers will be leaving in droves, and we're holding down jobs that come with additional responsibilities much sooner. Then you're short of people. So, I've taken on this X [mentions her specialist role] with more responsibilities much sooner. But I find that to do this job, you're not always well supported or supervised, and learn a bit on the fly, and this might not be the best way.- Fanny

In some cases, immigration may also have played a role in amplifying this mismatch during integration, given that for some managers, previous work experience and qualifications carried little or no recognition in accessing management positions with responsibilities comparable to those in previous jobs:

When I was looking for work, I had a hard time as an immigrant finding a job that matched my previous experience and my qualifications. So I worked a lot in the cultural and community sectors, as well as in outdoor recreation. They were mostly X [mentions a middle management position]. I did have a certain level of responsibility, though, but they weren't very well-paying jobs. On the other hand, it helped build a resume of work experience in Canada, and I think that led to the next step. – Sylvain

Added to all of this, not knowing colleagues or superiors well, having little opportunity to talk with them, or lacking feedback, particularly when joining a new workplace, can certainly complicate integration. More broadly, some participants noted they had encountered challenging organizational situations and complex

© 2023 Global Journals

workplace experiences during their integration, for example, in a team where there was a staff shortage or following the dismissal of their predecessor:

They don't tell you that when you arrive. The X [mentions middle management position] before you, well, he had resigned and then he wouldn't take care of it. Then, well they tell you "Go ahead, you can do it. "But they don't give you the means, don't give you too much background information, and don't prepare you, don't support you. - Patricia

For some managers, mismatches between their past experiences and first forays into management work occurred in the area of implementing their management practices. They mentioned having to adapt their practices to the diversity of people they supervised (e.g., youth or adults of all ages, experienced staff, new hires, neuroatypical people) to make their job run more smoothly, as in Marlène's case:

I've worked with, like, many generations, young people and ladies who've been with the company for 40 years. I had to adapt my management style somewhat with them, in working with them. -Marlène

In other cases, some confided that they had to adapt their management practices when they became superiors to former peers. Moving into an authority role over people with whom they had developed close and sometimes friendly relationships could at times inject sensitive or even awkward dynamics into their interactions with the teams they led, and this fed their feeling of isolation. Others explained that they had to assert themselves or justify their decisions to more experienced employees on their teams, as Camille had to do:

Then I hired someone who was older than me. She had a X [mentions graduate degree]. I just had a X [mentions undergraduate degree]. Well, this kept coming up all the time: "Yeah, but Camille, you know, with my experience, I'd do it like this." Well, yes. I understand. Good for you! But I'm the boss. So you know what? We're not going do it that way. I value what you're telling me, and I know that you're experienced and all that, but in the end, well, I'm the one in charge. It took me almost six months before I was really able to say: "Well, I'm the boss. And that's how it goes."- Camille

Lastly, other mismatches were noted in situations where managers had to make decisions on their own, in an organizational context without colleagues at the same managerial level with whom they could share and discuss what they were facing:

The thing is, what I also find hard about management is often being alone in that position. Sure, decisions are made at board meetings, but in day-to-day management I'm all by myself. I do have colleagues, but the moment I have a decision to make or something is bothering me, you know, I'm still largely on my own. - Justine

ii. *Environments where Work Organization Poses Health Risks*

A number of participants recounted having to integrate into workplace environments where staff were overworked, particularly due to lack of or inadequate resources, causing stress and burnout. Large volumes of work to be completed on tight deadlines was also brought up:

When I took up the job, I quickly realized that we were far from having the resources needed to carry out the mandates that were expected of us. So, the workload was really excessive compared to the resources we had. - Jonas

Some said that in these kinds of situations, to get the job done they had to put their shoulder to the wheel and extend their working day- either by starting early in the morning or staying late into the evening- or even work weekends. Others admitted that part of their concerns during their integration was thinking about their workloads and the boundaries they needed to set for the sake of their health. To preserve their well-being, some worked out compromises, such as agreeing to temporarily work longer hours while recruiting additional staff and better structuring tasks within the team. Others approached and struck agreements with their superiors to reset often unrealistic expectations and deadlines.

I met with the director general, who laid out his priorities, which were in a to-do-list. So here I am in the team, and see that I have X [names number of employees left, less than 5] left and about 8 vacancies. His expectations were completely unrealistic. Still, he was quite decent about it, but it's all because they set very high expectations. You're under pressure and you're like, "Okay! But you know I have to build a team from scratch. I'm not there yet." And on top of that you have customer requests coming in from everywhere. - Émile

iii. *Pressure to "Prove Oneself" in Complying with Group Norms*

Several participants spoke of feeling pressured to prove themselves as managers in order to conform to the group norms operating in their business. For example, some mentioned having been given a mandate to carve out a place for themselves within an existing team, which could be challenging, as Bianca attests:

My superior said, "Perfect. You want to start in this business? Make your mark, but you still have a month and a half to hire 100 employees in all departments combined." So this was very, very big and that was it. It was a team of managers who had been there for a while. I'd be lying if I told you that it was easy when I first got there, because, like it or not, I was new kid on

© 2023 Global Journals

the block with a huge mandate. So I had to quickly get all the department managers on board to target their needs, so that we could hire all these wonderful people within a month and a half. [Laughter] […] in the X culture [names healthcare institution], people are often close-minded, there's a bit of an old-fashioned management mentality. No sooner did I come in all bright and cheery with good ideas that I'd get comments like: "Hey, careful- you know, be careful how you want to handle this." - Bianca

Some managers talked about how the visibility of their management methods differed from those of their colleagues and how this may have complicated their professional integration. For example, Vicky explained that her colleagues criticized her for being too lax with her team, whereas stricter ones were the norm in the industry. In another example, involving promotions, some managers mentioned they had been denied promotion opportunities because they had not "done their time" nor "acquired enough experience to be ready," as is common practice in their industry, before moving from one position to another:

What was very difficult at the beginning was precisely to get other managers to believe in me. When I started, I had the big disadvantage of being young. I'd just joined the company and wanted a management position. In the company mindset, it's more like you can become a manager once you've been here long time. I firmly believe that being a manager is not about being at the top. I understand these are promotions, but you know for me it's not—it's not because you're good at your job that you must be a good manager. And I find that this is a big problem at the company where I'm currently working, because it means that skilled young people who want to be managers are held back a lot. They're often held back because they think: "No, you're not ready. You're too young" [...] nobody has ever been able to tell me why [laughs], they thought I wasn't ready. – Vicky

Strained relationships or conflict in the workplace that may lead to violence Some participants revealed that when entering their role they experienced certain work situations marked by strained relationships or conflicts with colleagues, superiors or supervised staff. These ranged from having to manage tensions or conflicts between staff or partners, repair team dynamics, handle crises, or work through issues with a superior:

Because when I got there, the boat was sinking [laughter][…] there were just three employees, including one part-time. So we needed to rebuild the team. It's a practically all new team. […] the former director who was there before, I think he had reached the end of what he could do for the regions, so there was like some sort of disagreement and the regions tried to split up, but of course if they do that and then create another organization, then there is no point for our organization to exist and they couldn't do that because of donor funding; they couldn't split up. So that really created a lot of conflict. Then there was what we insiders called a coup [laughs].In the sense that some of the people in fact stepped forward to join the board of directors. So there was a renewal of the board of directors. At that point, there was a change in methods, the previous director didn't like it and left. So that's it. He left. Some employees left because of him during the pandemic. That's why there weren't that many people left. So my job was to bring back all the regions, get everyone back to working together, rebuild the team and move forward with it. - Georgia

[...] recently, my superior and I were not seeing eye to eye on a certain point and then he came to ask my opinion. I simply gave him my opinion [...] and I disagreed with him. In front of my work colleagues, he lost his cool. He said, "You're trying to shove it down my throat." Then he tells me, "Well it's not going to happen!" "Hey!" I said, "take it easy. I'm not trying to shove anything down your throat. YOU asked my opinion. YOU got my opinion. It's not the same as yours. The decision is now up to you." That's it. You're not going to make me take the fall for this. I don't agree with you. - Joyce

In other cases, strained relationships or conflict in the workplace arose from the different ways of seeing or doing managerial work, and in competitive relationships between colleagues, among others, for promotions:

Colleagues were hiding information. We'd get in front of the boss, and I hadn't been given the information about a file we were working on together. Then he presented it to the boss and looked good doing it. I looked like I didn't know what I was talking about, and there I was thinking we had been working as a team, and I said to myself it's useless, it's not worth it. I didn't see it as a way of working, which might be just as efficient, but I truly believe that we work for the citizen first and then for X [mentions name of the organization], not to advance my career by not sharing information. - Fanny

Strained relationships or conflict in the workplace also led several participants to doubt their legitimacy as managers. These individuals felt they were not being taken seriously, were talked down to as if they knew nothing, and in some cases, had male colleagues steal their ideas and manage to get credit for them:

[…] as a female manager, I find that sometimes there are chauvinist comments. There is a great deal of paternalism. I'm a young woman, they all think that I'm their little girl and then they're like: "But of course, I'm going to explain it to you, my dear!" And I find this APPALLING. Yeah, for sure, there are times when it makes me mad, BUT luckily, I work in the cultural

© 2023 Global Journals

sector, and there are lots of women in the cultural sector. If I were working in technology or engineering, I'd have already quit, that's for sure! - Emma

Other female managers confided that certain workplace experiences had caused disgruntlement that escalated to bullying and—at times—violence:

I had an employee who was—who was very sexist, so having him under my supervision wasn't easy. He was—he was a man with a rather imposing physique, unlike me. So one time, he was unhappy about something [...] he came toward me and backed me into a doorway as he approached, so I had to lean against him and that was very intimidating. There were other staff members present during the incident. Naturally, there's a culture of silence in my business, so we don't report things. And management didn't take the incident seriously, because the four people who were there, the guy and three others, ended up saying the opposite of what I reported. So nobody took it seriously for X [mentions how long, more than one year], he was really very…he'd come near me, for example in a doorway, he'd get really close to me and I'd feel his breath on my ear or my hair moving […] up to the time when he threatened to hit one of my female superiors with a X [mentions object, threat of physical violence]. Then after than it was taken seriously, and he was laid off. So yes, it's because I was a woman in a position of authority that I had to suffer this. That's for sure. - Suzanne

Additionally, a few managers said that despite the mentoring they got from male colleagues, they were still exposed to sexism in the form of in appropriate sexualized or untoward comments, as Camille reveals:

[...] the white man mentoring who sees a young woman in a management position is also true. Oh, as much as they're going to call me sweetheart, they're also going to help me and coach me and say: "She's young woman who wants to take her place and she's got potential, so we're going to help her and we're going to bring her along too, and all that."- Camille

In sum, the processing and analysis of the interview materials revealed the integration of young managers can be complicated by mismatches between knowledge accumulated from previous training and job experiences and the demands of managerial work, environments where the organization of work may pose health risks, pressure to "prove themselves" in complying with group norms, and by strained relationships or conflicts in the workplace that may lead to violence. For the first of these sub-categories- mismatches between previously accumulated knowledge and managerial work- it might be useful to explore potential new avenues in better supporting these new managers as they integrate into their professional roles. Leadership training programs, innovative forms of support through mentoring, or even young manager groups or associations might be one way to offset the effects of these mismatches. As for integrating into environments where the organization of work poses health risks, our findings are consistent with other research that has shown how recent workplace transformations can adversely impact the well-being of managers (Eurofound, 2019; Farrell & Morris, 2013; Glée-Vermande & Beyer, 2012; Harris & Ogbonna, 2020; Pelletier, 2014; Worrall & Cooper, 2014). Turning to the sub-categories of being pressured to "prove oneself" to comply with group norms and strained relationships and conflict in the workplace that may lead to violence- it should be noted that only female participants brought up these experiences, which can indicate another layer of complexity to women's professional integration. It is safe to assume from this that young female managers continue to be exposed to sexism (Galerand & Kergoat, 2017; Hirata & Kergoat, 2017) as they ease into management roles. In fact, the findings in these last two sub-categories validate research confirming the manifestation of social gender relations that continue to shape interpersonal workplace dynamics with colleagues and management teams during the socio-professional integration of women managers (Giguère et al., 2020).

These findings are also in line with Molinier (2002), who posits that women who enter a traditionally male field are not only confronted with certain forms of resistance from men, but are also subservient to the interests of the dominant group, a group to which they do not belong from the outset. Similarly, these findings are consistent with other studies that reveal the persistence of ethnic (Alesia, 2017)or gendered (Alesia, 2017; Bates & Holt, 2021; Ekonen & Heilmann, 2021; Ezzedeen et al., 2015; Vaz et al., 2023) prejudice and stereotypes and varied forms of sexism (Goyer et al., 2019; Marry et al., 2017)as well as micro aggressions (ex. Mansplaining, manterrupting) (Vaz et al., 2023) that hinder women's access to leadership roles.

VI. Discussion and Conclusion

Our findings help illuminate and categorize the various workplace experiences of young managers during their professional integration in the early stages of their careers. We feel they enrich current scholarship, as this cohort remains a largely under-researched population (Barley & Kunda, 2001; Gjerde & Alvesson, 2020; Korica et al., 2017) in studies in the transformation of managerial work (Farrell & Morris, 2013; Hassard et al., 2012; Worrall & Cooper, 2014), and those that show the impacts of these changes on the limitations or uncertainty of career paths (Farrell & Morris, 2013; Hassard et al., 2012). More broadly, our findings attest to the relevance of combining a life course approach (Fournier et al., 2016) and living work theory (Dejours,

© 2023 Global Journals

2009)to identify and examine the workplace experiences of young men and women in the early days of their management careers. Our findings reveal that gender remains a topical issue today (Galerand & Kergoat, 2017; Hirata & Kergoat, 2017), and, as it can affect professional integration for younger generations, needs to be taken into consideration. Despite the gains made by women entering management roles, our findings also show the persistence of inappropriate behaviour and sexism in the workplace that can trigger aggressive behaviours, which permeate into the experiences of young female managers. Having access to mentoring that supports women integrating into management yet not confronting forms of sexism at the same time in the end devalues and questions the place of women in the halls of power.

Our study has certain limitations, starting with its sample, which included both men and women; it would perhaps merit further research to compare different viewpoints of women, men and non-binary people. A second limitation concerns the Canadian context of the study; it would be prudent to document the experiences of this younger generation of managers in other geographical regions. Finally, further research is needed to better understand the workplace experiences of young managers, not only during their first forays into their professional roles, but as they continue to develop their careers as well.

Given the challenges of a shrinking Canadian workforce, our research could be useful in integrating and retaining young managers over the long term. With regard to practical considerations, our findings can be applied in considering new approaches or practices in the workplace ecosystem to foster their professional integration. One approach of note might be to develop support groups as forums for exchange and sharing experiences during this integration. Similarly, these findings may help to better train practitioners, particularly those in the field of guidance and counselling, so they are better prepared to assist these clients in the workplace as they become the managers of tomorrow.

References Références Referencias

1. Adamson, M., Muhr, S. L., & Beauregard, T. A. (2022). Theorising work–life balance endeavours as a gendered project of the self: The case of senior executives in Denmark. *Human Relations*, *76* (4), 629-654. https://doi.org/10.1177/00187267211073309
2. Alesia, N. (2017). The Influence of Ethnicity and Gender on the Leadership Experiences of Female Asian-American Managers. *Global Journal of Human-Social Science*, *17* (H4), 1-28. https://socialscienceresearch.org/index.php/GJHSS/article/view/2324
3. Alvesson, M., Blom, M., & Sveningsson, S. (2017). Constraints on leadership in managerial work. In M. Alvesson, M. Blom, & S. Sveningsson (Eds.), *Reflexive leadership: Organising in an imperfect world* (pp. 133-147). Sage.
4. Bal, P. M., & Dóci, E. (2018). Neoliberal ideology in work and organizational psychology. *European Journal of Work and Organizational Psychology*, *27*(5), 536-548. https://doi.org/10.1080/1359432X.2018.1449108
5. Barley, R. S., & Kunda, G. (2001). Bringing work back in. *Organization Science*, *12* (1), 76-95.
6. Bates, E., & Holt, L. (2021). The 'Mirrored Ceiling': Young undergraduate student women's expectations of gendered career opportunities and constraints. *Social & Cultural Geography*, *24* (2), 345-362. https://doi.org/10.1080/14649365.2021.1950821
7. Baumgartner, M. S., & Schneider, D. E. (2010). Perceptions of women in management: A thematic analysis of razing the glass ceiling. *Journal of Career Development*, *37* (2), 559-576. http://doi.org/10.1177/0894845309352242
8. Bishu, S. G., Sabharwal, M., & Reyes, R. (2022). Careers of women public managers: Career needs of women public managers across generations. *Public Administration Review*, *83* (1), 163-180. https://doi.org/10.1111/puar.13548
9. Bobillier Chaumon, M. -E., Cuvillier, B., Sarnin, P., & Vacherand-Revel, J. (2018). Usage des TIC et évolutions des pratiques socioprofessionnelles des cadres: quels repères pour le métier et quelles incidences sur la santé? *Pratiques Psychologiques*, *24* (4), 349-373. https://doi.org/10.1016/j.prps.2018.01.001
10. Bujold, C. (2004). Constructing career through narrative. *Journal of Vocational Behavior*, *64*(3), 470-484. http://doi.org/10.1016/j.jvb.2003.12.010
11. Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry. Experience and story in qualitative research*. Jossey-Bass Publishers.
12. Cousin, O., & Mispelblom Beyer, F. (2011). Le rapport au travail des cadres: un engagement paradoxal. In P. Bouffartigue, C. Gadea, & S. Pochic (Eds.), *Cadres, classes moyennes: vers l'éclatement?* (pp. 46-55). Colin.
13. Craig, E. (2008). The human and the hidden: Existential wonderings about depth, soul, and the unconscious. *The Humanistic Psychologist*, *36* (3-4), 227-282. https://doi.org/10.1080/08873260802391588
14. Cregård, A., & Corin, L. (2019). Public sector managers: The decision to leave or remain in a job. *Human Resource Development International*, *22*(2), 158-176. https://doi.org/10.1080/13678868.2018.1563749

© 2023 Global Journals

15. Créno, L., & Cahour, B. (2016). Les cadres surchargés par leurs emails: déploiement de l'activité et expérience vécue. *Activités*, *13* (1), 1-35.
16. Danvers, F. (2018). Chapitre 15: L'orientation des adultes: enjeux et perspectives. In F. Danvers (Ed.), *S'orienter dans un monde en mouvement* (pp. 259-288). Editions L'Harmattan.
17. de Gaulejac, V., & Hanique, F. (2019). La subjectivité en déroute dans les organisations paradoxantes. *Cliniques mediterraneennes*, *99* (1), 43-53. https://doi.org/10.3917/cm.099.0043
18. Deakin, S., & Wilkinson, F. (2011). Marchés du travail, crise financière et réforme: projet d'agenda pour une politique du travail. *L'Homme et la société*, *182* (4), 25-52.
19. Dejours, C. (2009). *Travail vivant 2: travail et émancipation*. Payot & Rivage.
20. Dejours, C. (2018). *Le facteur humain: "que sais-je?" n° 2996*. Presses universitaires de France.
21. Dejours, C., Deranty, J.-P., Renault, E., & Smith, H. N. (2018). *The return of work in critical theory: Self, society, politics*. Columbia University Press.
22. du Tertre, C. (2013). Économie servicielle et travail: contribution théorique au développement «d'une économie de la coopération». *Travailler*, *29* (1), 29-64. https://doi.org/10.3917/trav.029.0029
23. Dujarier, M.-A. (2015). *Le management désincarné: enquête sur les nouveaux cadres du travail*. La découverte.
24. Durand, J.-P. (2018). Contrôle et organisation du travail. Le contrôle du travail: de la prescription à l'implication contrainte. In D. Mercure & M. Vultur (Eds.), *Dix concepts pour penser le nouveau monde au travail* (pp. 97-118). Presses de l'Université Laval.
25. Ekonen, M., & Heilmann, P. (2021). The role of developmental networks in building a managerial career. *Journal of Career Development*, *48* (6), 1-16. http://doi.org/10.1177/0894845319900280
26. Elder, H. G. J. (2009). Perspectives on the life course. In W. R. Heinz, J. Huinink, A. Weymann, & C. Swader (Eds.), *The life course reader: Individuals and societies across time* (pp. 91-110). Campus Verlag. http://ariane.ulaval.ca/cgi-bin/recherche.cgi?qu=i9783593388052
27. Eurofound. (2019). *Working conditions and workers' health*. https://www.eurofound.europa.eu/publications/report/2019/working-conditions-and-workers-health
28. Ezzedeen, R. S., Budworth, M.-H., & Baker, D. S. (2015). The glass ceiling and executive careers still an issue for pre-career women. *Journal of Career Development*, *42* (5), 1-15. http://doi.org/10.1177/0894845314566943
29. Farrell, C., & Morris, J. (2013). Managing the neo-bureaucratic organisation: lessons from the UK's prosaic sector. *The International Journal of Human Resource Management*, *24* (7), 1376-1392. https://doi.org/10.1080/09585192.2012.722121
30. Fortier, I. (2018). Récits de vie et carrière des gestionnaires publics. Savoir, vouloir et pouvoir agir dans un monde accéléré. In I. Fortier, S. Hamisultane, I. Ruelland, J. Rhéaume, & S. Beghdadi (Eds.), *Clinique en sciences sociales: sens et pratiques alternatives* (pp. 222-234). Presses de l'Université du Québec.
31. Foster, M. W., Hassard, S. J., Morris, J., & Wolfram Cox, J. (2019). The changing nature of managerial work: The effects of corporate restructuring on management jobs and careers. *Human Relations*, *72*(3), 473-504. http://doi.org/10.1177/0018726719828439
32. Fournier, G., Poirel, E., & Lachance, L. (2016). Vers l'élaboration d'un cadre d'analyse des parcours de vie professionnelle: l'éclairage de l'approche du Parcours de vie et des théories récentes en développement de carrière. In G. Fournier, E. Poirel, & L. Lachance (Eds.), *Éducation et vie au travail: perspectives contemporaines sur les parcours de vie professionnelle* (pp. 93-143). Presses de l'Université Laval.
33. Fuchs, V. (2011). *Le dictionnaire de l'emploi, de l'insertion et de la formation*. Chronique sociale.
34. Galerand, E., & Kergoat, D. (2017). The Subversive Potential of Women's Relation to Work. *Critical Horizons*, *18* (1), 52-65. https://doi.org/10.1080/14409917.2017.1275169
35. Giguère et al. (2020). Les transformations du marché du travail et des organisations: enjeux de maintien au travail et de mobilité professionnelle. *Psychologie du Travail et des Organisations*, *26* (4), 275-283. https://doi.org/10.1016/j.pto.2020.09.002
36. Giguere, E., Bilodeau, K., & St-Arnaud, L. (2022). Challenges of female executives' work activities: the hyper-efficiency operating mode. *Gender in Management: An International Journal*, *37* (7), 801-815. https://doi.org/10.1108/GM-10-2021-0303
37. Giguère, É., Pelletier, M., Bilodeau, K., & St-Arnaud, L. (2023). Breaking through the glass ceiling, but at what cost? From transitions between hierarchical levels to the diversité of ascending, lateral or descending career paths of women executives. *Autralian Journal of Career Development*, *32* (1), 60-68. http://doi.org/10.1177/10384162221141350
38. Giguère, É., St-Arnaud, L., & Bilodeau, K. (2020). Travail invisible et rapports sociaux de sexe lors des parcours d'insertion socioprofessionnelle des femmes cadres. *L'orientation scolaire et professionnelle*, *49* (2), 281-312. https://doi.org/10.4000/osp.12078
39. Gjerde, S., & Alvesson, M. (2020). Sandwiched: Exploring role and identity of middle managers in the genuine middle. *Human Relations*, *73* (1), 124-151. http://doi.org/10.1177/0018726718823243

© 2023 Global Journals

40. Glée-Vermande, C., & Beyer, F. M. (2012). Manager sans perdre son âme. *Revue internationale de psychosociologie et de gestion des comportements organisationnels*, *18* (45), 251-273. http://doi.org/10.3917/rips1.045.0251
41. Goyer, L., Héon, L., Fournier, G., & Simo, A. (2019). Défis pour des femmes cadres oeuvrant dans les cégeps: stratégies d'actions en zone de parité. In S. Brière (Ed.), *Les femmes dans des professions traditionnellement masculines* (pp. 191-210). Presses de l'Université Laval.
42. Guichard, J. (2018). Objectifs et finalités de l'accompagnement à l'orientation à l'ère anthropocène. In F. Danvers (Ed.), *S'orienter dans un monde en mouvement* (pp. 14-40). L'Harmattan.
43. Guptill, M., Reibling, E. T., & Clem, K. (2018). Deciding to lead: a qualitative study of women leaders in emergency medicine. *International Journal of Emergency Medicine*, *11* (1), 47. https://doi.org/10.1186/s12245-018-0206-7
44. Hamouche, S. (2019). *Santé mentale des cadres: travail, identité et pratiques de gestion des ressources humaines* [Thèse de doctorat, Université de Montréal]. Montréal.
45. Harris, L. C., & Ogbonna, E. (2020). Middle managers' work in recession and austerity: A longitudinal study. *British Journal of Management*, *31*(2), 289-304. http://doi.org/10.1111/1467-8551.12360
46. Hassard, J., Morris, J., & McCann, L. (2012). 'My brilliant career'? New organizational forms and changing managerial careers in Japan, the UK, and USA. *Journal of Management Studies*, *49* (3), 571-599. http://doi.org/10.1111/j.1467-6486.2011.01032.x
47. Hirata, H., & Kergoat, D. (2017). Rapports sociaux de sexe et psychopathologie du travail. *Travailler*, *37*(1), 163-203. https://doi.org/10.3917/trav.037.0163
48. Jodelet, D. (2006). Place de l'expérience vécue dans les processus de formation des représentations sociales. In V. Haas (Ed.), *Les savoirs du quotidien: transmissions, appropriations, représentations* (pp. 235-255). Presses universitaires de Rennes.
49. Kochan, A. T., Riordan, A. C., Kowalski, M. A., Khan, M., & Yang, D. (2019). The changing nature of employee and labor-management relationships. *Annual Review of Organizational Psychology and Organizational Behavior*, *6*, 195-219. https://doi.org/10.1146/annurev-orgpsych012218-015335
50. Kohli, M. (2009). The world we forgot: A historical review of the life course. In W. R. Heinz, J. Huinink, A. Weymann, & C. Swader (Eds.), *The life course reader : Individuals and societies across time* (pp. 64-90). Campus Verlag.
51. Korica, M., Nicolini, D., & Johnson, B. (2017). In search of 'managerial work': Past, present and future of an analytical category. *International Journal of Management Reviews*, *19* (2), 151-174. http://doi.org/10.1111/ijmr.12090
52. Lalive d'Epinay, C., Bickel, J.-F., Cavalli, S., & Spini, D. (2005). Le parcours de vie: émergence d'un paradigme interdisciplinaire. In J.-F. Guillaume (Ed.), *Parcours de vie : regards croisés sur la construction des biographies contemporaines* (pp. 187-210). Éditions de l'Université de Liège.
53. Lama, A.-k. (2015). Leadership challenges for women managers in public universities in Saudi Arabia. *Global Journal of Human-Social Science*, *15* (A4), 35-43. https://socialscienceresearch.org/index.php/GJHSS/article/view/1347
54. Lieblich, A., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative research: Reading, analysis and interpretation*. Sage.
55. Marry, C., Bereni, L., Jacquemart, A., Pochic, S., & Revillard, A. (2017). *Le plafond de verre et l'État: la construction des inégalités de genre dans la fonction publique*. Armand Colin.
56. Mercure, D. (2017). Capitalisme contemporain et régimes de mobilisation subjective au travail. In D. Mercure & M.-P. Bourdages-Sylvain (Eds.), *Travail et subjectivité: perspectives critiques* (pp. 43-63). Presses de l'Université Laval.
57. Mercure, D. (2018). Les nouveaux codes du management. *Sciences Humaines*, *308* (11), 1-5.
58. Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4e éd. ed.). Jossey-Bass.
59. Mhiri, S., & Teneau, G. (2015). L'emprise du stress chez les cadres superieurs et intermediaires. *Revue internationale de psychosociologie et de gestion des comportements organisationnels*, *21*(52), 293-312. http://doi.org/10.3917/rips1.052.0293
60. Michaelides, A., Anderson, D., & Vinnicombe, S. (2023). A qualitative exploration of managerial mothers' flexible careers: The role of multiple contexts. *Journal of Vocational Behavior*, *141*. https://doi.org/10.1016/j.jvb.2022.103840
61. Molinier, P. (2002). Le continent noir de la féminité: sexualité et/ou travail? *Cliniques mediterraneennes*, *66* (2), 105-123. http://doi.org/10.3917/cm.066.0105
62. Molinier, P. (2004). Psychodynamique du travail et rapports sociaux de sexe. *Travail et Emploi*, *97* (janvier 2004), 79-91.
63. Molinier, P. (2008). *Les enjeux psychiques du travail: Introduction à la psychodynamique du travail*. Payot & Rivages.
64. Paillé, P., & Muchielli, A. (2016). *L'analyse qualitative en sciences humaines et sociales* (4e éd. ed.). Armand Colin.
65. Patton, W., & McMahon, M. (2014). *Career development and systems theory: Connecting theory and practice*. Sense Publishers.

© 2023 Global Journals

66. Pelletier, M. (2014). *Responsabilités et conduites des cadres dans le travail de gestion du personnel* [thèse de doctorat, Université Laval]. CorpusUL. http://www.theses.ulaval.ca/2014/31076/31076.pdf
67. Ross, K. P., Ressia, S., & Sander, J. E. (2017). *Work in the 21st century. How do I log on?* Emerald Publishing Limited.
68. Savickas, L. M., Nota, L., Rossier, J., Dauwalder, J.-P., Duarte, M. E., Guichard, J., Soresi, S., Van Esbroeck, R., & Van Vianen, A. E. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, *75* (3), 239-250. https://doi.org/10.1016/j.jvb.2009.04.004
69. Sexton, W. D., Lemak, C. H., Wainio, J., Anne, & Mastro, M. L. (2014). Career inflection points of women who successfully achieved the hospital CEO position. *Journal of Healthcare Management*, *59* (5), 367-384.
70. Shaw, S., & Leberman, S. (2015). Using the kaleidoscope career model to analyze female CEOs' experiences in sport organizations. *Gender in Management: An International Journal*, *30* (6), 500-515. https://doi.org/10.1108/GM-12-2014-0108
71. St-Arnaud, L., & Giguère, É. (2018). Women entrepreneurs, individual and collective work–family interface strategies and emancipation. *International Journal of Gender and Entrepreneurship*, *10* (4), 198-223. https://doi.org/10.1108/IJGE-09-2017-0058
72. St-Hilaire, F., & Gilbert, M.-H. (2019). What do leaders need to know about managers' mental health? *Organizational Dynamics*, *48* (3), 85-92. https://doi.org/10.1016/j.orgdyn.2018.11.002
73. Taskin, L., Ajzen, M., & Donis, C. (2017). New ways of working: From smart to shared power. In M. V. & H. W (Eds.), *Redefining Management. Smart power perspectives* (pp. 65-79). Spinger.
74. Thaller, J., Duller, C., Feldbauer-Durstmüller, B., & Gärtner, B. (2023). Career development in management accounting: empirical evidence. *Journal of Applied Accounting Research*. https://doi.org/10.1108/jaar-03-2022-0062
75. Trudel, M. J., & Gosselin, A. (2010). De nouvelles compétences humaines pour contrer le stress au travail des cadres. *Revue internationale sur le travail et la société*, *8* (1), 1-16.
76. Vaz, E. R. D., Gallon, S., & Fraga, A. M. (2023). "We go through a bit of everything": The labyrinth career of the professional trajectories of executive women. *Revista Brasileira De Gestao De Negócios*, *25* (1), 88-107. https://doi.org/10.7819/rbgn
77. Vultur, M., & Bernier, J. (2014). *Les agences de travail temporaire : leur rôle et leur fonctionnement comme intermédiaires du marché du travail*. PUL.
78. Worrall, L., & Cooper, L. C. (2014). The effect of the recession on the quality of working life of UK managers: An empirical study. *International Journal of Management Practice*, *7* (1), 1-18.
79. Yadav, O. P., Nepal, P. B., Rahaman, M. M., & Lal, V. (2017). Lean implementation and organizational transformation: A literature review. *Engineering Management Journal*, *29* (1), 2-16. https://doi.org/https://doi.org/10.1080/10429247.2016.1263914
80. Young, A. R., & Valach, L. K. (2008). Action theory: An integrative paradigm for research an evaluation in career. In A. J. Athanasou & R. Van Esbroeck (Eds.), *International handbook of career guidance* (pp. 643-657). Springer.

© 2023 Global Journals

Global Journal of Management and Business Research: A Administration and Management
Volume 23 Issue 10 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Innovative Multicriteria Approach to Business Process Management Maturity in the Public Sector

By Janaina Piana, Fernanda Cavicchioli Zola, Aline Tomeleri da Costa, Gabriel Secco Paz & Daiane Maria De Genaro Chiroli

Federal Technological University

Abstract- *Purpose:* The objective of this work is to propose a business process management maturity model (BPMMM), prescriptive and with multicriteria decision-making approach (MCDM).
Design/Methodology/Approach: The relevant literature was examined to develop BPMMM. The Analytic Hierarchy Process (AHP) method was chosen to evaluate the weight of the capabilities. The Fuzzy Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method measured the maturity level. The model was applied in property divisions (DIPAT) of two federal universities (public institutions) with comparative and prescriptive purpose: Reference DIPAT and Real DIPAT.
Findings: The AHP method allowed the analysis and weighting of capabilities. Fuzzy-TOPSIS has enabled the determination of maturity level effectively. As a result, Reference DIPAT and Real DIPAT obtained maturity level 3 (defined). Through comparative analysis, the critical factors for improvements in Real DIPAT were: strategic alignment, culture and people.

Keywords: *business process management, maturity model, multicriteria decision-making.*

GJMBR-A Classification: *JEL: M15*



Strictly as per the compliance and regulations of:

© 2023. Janaina Piana, Fernanda Cavicchioli Zola, Aline Tomeleri da Costa, Gabriel Secco Paz & Daiane Maria De Genaro Chiroli. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BYNCND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative-commons.org/ licenses/by-nc-nd/4.0/.

Innovative Multicriteria Approach to Business Process Management Maturity in the Public Sector

Janaina Piana [α], Fernanda Cavicchioli Zola [σ], Aline Tomeleri da Costa [ρ], Gabriel Secco Paz [ω] & Daiane Maria De Genaro Chiroli [¥]

Abstract- Purpose: The objective of this work is to propose a business process management maturity model (BPMMM), prescriptive and with multicriteria decision-making approach (MCDM).

Design/Methodology/Approach: The relevant literature was examined to develop BPMMM. The Analytic Hierarchy Process (AHP) method was chosen to evaluate the weight of the capabilities. The Fuzzy Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method measured the maturity level. The model was applied in property divisions (DIPAT) of two federal universities (public institutions) with comparative and prescriptive purpose: Reference DIPAT and Real DIPAT.

Findings: The AHP method allowed the analysis and weighting of capabilities. Fuzzy-TOPSIS has enabled the determination of maturity level effectively. As a result, Reference DIPAT and Real DIPAT obtained maturity level 3 (defined). Through comparative analysis, the critical factors for improvements in Real DIPAT were: strategic alignment, culture and people.

Practical Implications: The model proved to be effective for descriptive, comparative and prescriptive purposes. In addition, the model can be used by managers from other areas to identify critical capabilities in process management and continuous performance improvement, resulting in the achievement of higher levels of maturity.

Originality/Value: Most BPMM models have a qualitative analysis of the maturity level. The proposed model presents a quantitative analysis, based on the MCDM, which brings great methodological rigor in the construction and application of the model.

Keywords: business process management, maturity model, multicriteria decision-making.

Author α: Doctor in Administration. Adjunct Professor at the Federal Technological University of Paraná (UTFPR) - Campus Apucarana. Apucarana - PR –Brazil. e-mail: janainapiana@utfpr.edu.br

Author σ: Doctor in Production Engineering. Professor at the Federal Technological University of Paraná. Apucarana - PR – Brazil. e-mail: fzola@utfpr.edu.br

Author ρ: Master's in public administration. Administrative Assistant at the Federal Technological University - Campus Londrina- PR – Brazil. e-mail: alinetomeleri@hotmail.com

Author ω: Master's student in Urban Engineering. StateUniversityof Maringá. Maringá - PR – Brazil. e-mail: pg404790@uem.br

Author ¥: Doctor in Production Engineering. Professor at the Federal Technological University of Paraná. Apucarana - PR and at the Postgraduate Program in Urban Engineering at the State University of Maringá. Maringá - PR – Brazil. e-mail: daianechiroli@utfpr.edu.br

I. Introduction

Business Process Management (BPM) has been extensively addressed and refers to a combination of modeling, automation, execution, control, measurement, and optimization of activities applied to corporate objectives, encompassing systems, human resources, customers, and partners (Mahendrawathi et al., 2019). Therefore, BPM aims to assist organizations in the continuous improvement of their processes, describing how organizations operate, which directly impacts their performance (van Looy et al., 2013; Boer et al., 2015).

The measurement of processes in organizations is carried out through maturity models (MM). MM is an essential tool for improvement in organizations (van Looy et al., 2013) and an instrument capable of continuously evaluating and improving their processes (Tarhan et al., 2015). Additionally, process maturity refers to the assessment of its overall conditions, analyzed through different sets of multidimensional criteria. In this process, maturity levels range from an initial state to a more mature state (Froger et al., 2019). Generally, processes with a high level of maturity are associated with better performance, meaning that the output products and services have higher quality (Dijkman et al., 2015).

Despite its significance, the widespread adoption of maturity models in the BPM field has not materialized in organizations (Tarhan et al., 2016). Numerous maturity models proposed in the literature (Aragão et al., 2023; Chiroli et al., 2022; Mello et al., 2022; Soares et al., 2020) have been criticized in studies citing problems such as application complexity, limited flexibility, lack of empirical evidence presentation, and restricted prescriptive characteristics (Alshathry, 2016; Röglinger et al., 2012; Tarhan et al., 2015; Tarhan et al., 2016). Moreover, the measurement of maturity is often performed through qualitative methods, introducing limitations and high subjectivity to the models.

Röglinger et al. (2012) consider that the development of Business Process Management Maturity Models (BPMMM) should be based on integrating and consolidating an existing model, such as Tarhan et al. (2016), emphasizing the consolidation of BPMMM,

© 2023 Global Journals

focusing strongly on prescriptive properties, as the direction for future work.

Based on this, the objective of this study is to propose a BPMMM based on relevant models from scientific literature, with prescriptive characteristics and a multi-criteria decision-making approach (MCDM). The proposed model considers the capabilities of the Business Process Management Capability Framework (BPM-CF) model, including strategic alignment, governance, methods, information technology, people, and culture (Froger et al., 2019; Niehaves et al., 2013; Zwicker et al., 2010; Rosemann et al., 2006). After selecting these capabilities, we proceeded to analyze the factors within the BPM-CF and Process Execution Maturity Model (PEMM).

The relevance of this study is highlighted by its practical and managerial contribution to asset management, as well as its theoretical and methodological contribution to the scientific community. Due to the growing demand and expansion of asset control activities, the search for new tools and management strategies becomes crucial for public institutions. The application of a maturity model to measure the maturity of asset management processes aligns with these needs.

Through this research, it becomes possible to diagnose and evaluate the degree of maturity of processes and tools within the Property Divisions of public universities. This evaluation offers tangible improvement opportunities not only within these institutions but also within other public sector organizations sharing the same goal of enhancement.

The significance of this research also lies in its ability to assist researchers, experts, and public servants in understanding, evaluating, and selecting maturity models that best represent their organizational goals. This is achievable through the systematic literature review conducted, maximizing the results of its application. Furthermore, the proposal of a prescriptive maturity model, utilizing a multi-criteria approach and presenting ease of application, promises to be a valuable tool in facilitating the practical implementation of these models.

II. Literature Review

a) Business Process Management Maturity Models (BPMMM)

Maturity models are tools that assist in the measurement of general process conditions. Business process management capabilities are used to propose maturity models as measurement instruments (van Looy, 2019). Maturity levels are assessed by the desired phases, from an initial state to a more mature state (Froger et al., 2019), characterized as a set of criteria or standards, used by organizations, to evaluate the level of efficiency and compliance in the process management (Alshathry, 2016).

The main objective of maturity models is to describe the stages of the maturation path, including the characteristics of each stage and the logical relationship between them (Röglinger et al., 2012). As for practical application, the classic purposes of use are: descriptive, prescriptive, and comparative (BRUIN et al., 2005). The model with a descriptive goal is applied to assess the current state of the process. Although, the prescriptive model is applied to identify desirable maturity future levels and provide guidance on implementing these improvements base on improvement measures. The model with a comparative purpose allows internal or external benchmarking (Röglinger et al., 2012).

According to BPMMM analysis studies (Alshathry, 2016; Froger et al., 2019; Röglinger et al., 2012; Tarhan et al., 2015; Tarhan et al., 2016) and BPMMM selection study (Lima et al., 2017), the BPM-CF model (Rosemann and Bruin, 2005) is the most referenced in the literature, with extensive studies of its application. The PEMM model (Hammer, 2007) is the only one that can be applied to a single or a set of processes, and its simplicity in design allows for self-assessment, with no need for external specialists. Therefore, the proposed model of this study is based on the BPM-CF and PEMM models, considering that Röglinger et al. (2012) points out that the development of BPMMM must be based on the integration and consolidation of an existing model; as well as Tarhan et al. (2016), who states that the consolidation of existing BPMMM, with a strong emphasis on prescriptive ability, should be the direction for future studies.

b) Capabilities and Maturity Levels

The BMM-CF model, by Rosemann and Bruin (2005), comprises six assessment capacities: Strategic Alignment, Governance, Methods, Information Technology, People, and Culture. The PEMM model (Hammer, 2007) encompasses the so-called facilitators, who attribute to the process the potential to offer high performance, namely: Design, Executors, Responsible, Infrastructure, and Metrics. This model also addresses the so-called capacities, which guarantee the process needs to change and support, which are: Leadership, Culture, Knowledge, and Governance.

The BPM-CF model, regarding the maturity levels, covers five levels: initial, repetitive, defined, managed, and optimized. The PEMM model covers four levels: P1 (reliable, predictable, and stable), P2 (superior results), P3 (ideal performance), and P4 (best in class).

III. Methodology

a) Selection of the Maturity Model

The maturity model proposed in this study is based on the BPM-CF and PEMM models, because in

© 2023 Global Journals

addition to being relevant models in the literature, according to Froger et al. (2019), the performance of the processes depends not only on their individual characteristics but also on business skills, such as culture and knowledge. In this context, the BPM-CF and PEMM models are the only ones that evaluate these capacities among the models presented in reviews studies of BPMMM analysis (Alshathry, 2016; Froger et al., 2019; Röglinger et al., 2012; Tarhan et al., 2015; Tarhan et al., 2016).

The capacities and evaluative factors of the proposed model are based on the BPM-CF model. In addition, some evaluative factors are based on the PEMM model because its comprehensiveness in a certain item and/or language more appropriate to the user. The capacities and factors assessed, as well as the model questions, are described in Appendix 1.

The maturity levels are based on the BPM-CF model (Rosemann and Bruin (2005) since it is the most cited in the literature (Tarhan et al. 2016) and the main model used concerning the proposal of the new model. Table I presents the levels and descriptions of the proposed maturity model, based on the BPM-CF model.

Table I: Maturity Levels

MaturityLevel	Description
Level 1 – Initial	It does not have process management initiatives or has uncoordinated and unstructured initiatives.
Level 2 – Repetitive	It is progressing beyond the first process management initiatives and is looking for management improvements.
Level 3 – Defined	It has growing quests to build and develop the capacity for process management and expand individuals who analyze the organization from a process perspective.
Level 4 – Managed	It has a management process firmly implanted in the composition of improvement strategies.
Level 5 – Optimized	It has a management process firmly implanted in strategic and operational management.

b) Model Maturity Level Evaluation

After defining the model maturity levels, the next step is to define the ways for the proposed model to deliver the final result, presenting the maturity level of the sectors surveyed. To achieve this goal, we decided to use a quatitative model to mesure the maturity level, in order make it easier for users. For this, figure 1 illustrates the followed procedures.

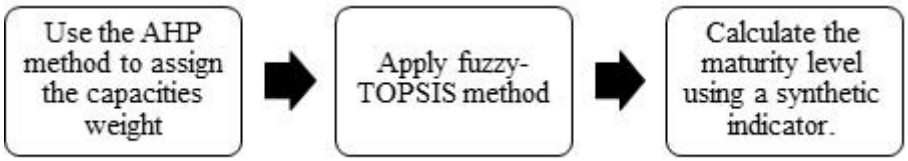


Figure 1: Calculation for the Maturity Level

The evaluation model proposed here is based on the MDCM methodology of Aragão (2020) and Zola et al. (2019).

i. *AHP Method*

The AHP is a MCDM based proposed by Saaty (1994), where the decision-maker can express his preferences (Serrano et al., 2011). It can be applied to rank the alternatives or to weigh the criteria, being the second option the most used one (Zola et al., 2019). In this study, the AHP method is used to weigh the criteria. In the AHP weighting process, an individual or a group of decision-makers do pairwise comparisons of each of the criteria, using the Saaty scale (Saaty, 1980) as a reference, as shown in Table II.

Table II: Saaty Scale

Number	Linguistic Variable	Meaning
1	Equalpreference	The two criteria contribute identically to the objective.
3	Moderatepreference	One criterion is a little more preferable than the other.
5	Strong preference	One criterion is clearly preferable to the other.
7	Verystrongpreference	One criterion is predominant for the objective.
9	Extreme preference	Without any doubt, one of the criteria is absolutely predominant for the objective.
2,4,6,8 Reciprocal Valuesofprevious	Intermediatevalues	When looking for a compromise condition between the two definitions.

© 2023 Global Journals

From the comparison matrix, the priority vector is calculated using the eigenvector method. With the eigenvector *w* of the matrix A, $AW = \lambda_{maxW}$, considering that λ_{maxW} is the maximum eigenvector of the *A* matrix, it is possible to estimate the priority of the criteria (Saaty, 1994). It is also necessary to calculate the consistency rate (*CR*) that aims to capture whether decision-makers were consistent in their opinions, through the equation:

$$CR = \frac{CI}{RI} \quad (1)$$

where CI is the consistency index and RI is the random index. CI and RI values depend on the number of criteria (*n*). The CI is calculated by using the formula:

$$CI = \frac{\lambda - n}{n-1} \quad (2)$$

where λ is the average value of the consistency vector. For comparisons to be consistent, the *CR* value must be less than 0.1 (Saaty, 1994).

In order to calculate the weighting of a series of criteria weights base on more than one decision-maker, the method of entropy of Zeleny (1976) is used. The entropy method is considered a measure of the uncertainty of the information, where the first step consists of normalized the decision matrix through the equations:

$$x_{ij} = \frac{a_{ij}}{max\{a_{ij}\}} \quad (3)$$

$$r_{ij} = \frac{x_{ij}}{\sum_{i=1}^{m} x_{ij}} \quad (4)$$

where r_{ij} represents the normalized performance of the alternative i $(i = 1, \dots, m)$ in relation to the criterion j $(j = 1, \dots, n)$. After the normalization process, the following equations are used:

$$E_j = -k \sum_{i=1}^{m} r_{ij}\, In(r_{ij}) \quad (5)$$

$$k = 1/In(m) \quad (6)$$

$$D_j = 1 - E_j \quad (7)$$

$$\lambda_i = \frac{D_j}{\sum_{j=1}^{n} Dj} \quad (8)$$

where E_j means the entropy of the set of alternatives for the criterion j; D_j means the degree of diversification of the information provided by the results of the criterion j; and λ_i is the weight of the criterion j.

ii. *Fuzzy-TOPSIS Method*

After defining the capacity weights, the Aragão methodology (2020) is used to generate a synthetic indicator that makes it possible to measure the maturity level of the model.

Aragão's (2020) proposes the use of the so-called "evaluation alternatives", being the basis to compose a synthetic indicator, which determines the level of final maturity. The evaluation alternatives are: (i) the Utopian alternative (A^+), with the data considered ideal for the highest level of maturity; (ii) the Reference alternative (A_r), with the data obtained from a maturity reference to the user (sector, processes, department, etc.) for possible comparison with the data from where the model will be applied (sector, process, department, etc.); and the Real Alternative (*A*), which is the data where the model will be applied (sector, process, department, etc.); and the alternative Limit (A_0) which has the minimum values among the main references. From these definitions, the evaluation alternatives of this study are composed by the variables: Utopian DIPAT (A^+); Reference DIPAT (A_r) and Real DIPAT (*A*). The alternative Limit (A_0) was not used in this study, as we chose to use only the values of the Utopian alternative (A^+) to calculate the priorities for applying improvements.

Aragão (2020) used the TOPSIS method to generate a synthetic indicator. In this study, the method was changed to Fuzzy-TOPSIS, since the proposed maturity model has only qualitative variables. The Fuzzy methodology allows the transformation of qualitative variables into numerical variables. The Fuzzy-TOPSIS method was created by Chen (2000) and consists of a version of the TOPSIS method to be used when the decision-maker needs to use linguistic values based on a scale. The Fuzzy-TOPSIS method was created by Chen (2000) and consists of a version of the TOPSIS method to be used when the decision-maker needs to use linguistic values based on a scale. The methodology allows the decision-maker to identify the best alternatives concerning its approximation with the positive ideal solution (PIS) and greater distance from the negative ideal solution (NIS).

Here, the maturity model is applied to the evaluation alternatives Reference DIPAT (A_r), Real DIPAT (*A*), and Utopian DIPAT (A^+). The Utopian DIPAT is the ideal DIPAT, that is, the best possible alternative.

Subsequently, the decision matrix must be filled by the decision-maker, who chooses a linguist variable for each criterion. This linguistic variable is used to represents the importance of the criteria and the classifications of the alternatives regarding the qualitative criteria. All linguistic variable option is expressed by positive trapezoidal fuzzy numbers, where the weight of the importance of each criterion is attributed directly or indirectly using the paired comparison (CHEN; LIN; HUANG, 2006; COOK, 1992), as expressed in Table III (Chen, 2000).

© 2023 Global Journals

Tabela III: Linguistic Variables

Linguistic Variables	*Fuzzy* Numbers $(a_{ij}, b_{ij}, c_{ij}, d_{ij})$
Verylow(VL)	(0,0,1,2)
low(L)	(1,2,2,3)
Mediumlow(ML)	(2,3,4,5)
Medium(M)	(4,5,5,6)
Medium high (MH)	(5,6,7,8)
high (H)	(7,8,8,9)
Very high (VH)	(8,9,10,10)

Therefore, the decision matrix is building by transforming linguistic variables into *fuzzy* trapezoidal numbers, using Table III as a reference. When there is more than one decision-maker, everyone should build their decision matrix, and a simple arithmetic average should be applied to obtain a single fuzzy result for each criterion, base on Tan et al. (2010) methodology.

Subsequently, the next step consists of determining the maximum numerical variable (d_j^*) of the evaluation alternatives for each factor through the equation:

$$d_j^* = \max_i d_{ij} \quad (9)$$

The numerical decision matrix is normalized to obtain the matrix with fuzzy data through the equation:

$$\tilde{r}_{ij} = \left(\frac{a_{ij}}{d_j^*}, \frac{b_{ij}}{d_j^*}, \frac{c_{ij}}{d_j^*}, \frac{d_{ij}}{d_j^*}\right) \quad (10)$$

The normalization method mentioned above is designed to preserve the property in which the elements $\tilde{r}_{ij}$, ∀i,jare standardized (normalized) trapezoidal fuzzy numbers(Chen *et al.*, 2006).Then, considering the different importance of each criterion evaluated, the normalized*fuzzy* matrix should be weighted using the equations:

$$\tilde{R} = [\tilde{r}_{ij}]_{mxn} \quad (11)$$

$$\tilde{v}_{ij} = \tilde{r}_{ij}(.)\tilde{w}_j \quad (12)$$

In the sequence, the next step in the TOPSIS method consists of calculating the positive ideal solution (A*) and negative ideal (A⁻) for each criterion. In this study, the positive ideal solution is the maximum weight, considering that the ideal scenario is to reach the highest score of each criterion; and the negative ideal solution is 0 since the un-ideal scenario is the minimum score.

Then it is necessary to calculate the distance between each alternative from the positive ideal solution (d_i^*) and the negative ideal solution (d_i^-), through the equations:

$$d_i^* = \sum_{j=1}^{n} d_v\left(\tilde{v}_{ij}, \tilde{v}_j^*\right) \quad (13)$$

$$d_i^- = \sum_{j=1}^{n} d_v\left(\tilde{v}_{ij}, \tilde{v}_j^-\right) \quad (14)$$

where $d_v(.,.)$ is the distance measured between the two fuzzy numbers (Chen *et al.*, 2006).

With the values of the distances of each alternative, the proximity coefficient (CC_i) can be calculated. The CC_iThe CCI determines the classification order of all alternatives, representing the distances from A^* and A^- simultaneously, bringing relative proximity to the positive ideal *fuzzy* solution. It is calculated by the equation:

$$CC_i = \frac{d_i^-}{d_i^* + d_i^-} \quad (15)$$

It is observed that $CC_I = 1$ if $A_I = A^*$ and $CC_i = 0$ if $A_i = A^-$. In other words, $CC_I = 1$ when the alternative is closer to A^* and further away from A^-. Thus, once the set of alternatives is classified, it is possible to select the best among a set of viable alternatives (Chen *et al.*, 2006).

Base on this result, the maturity level can be calculated using the synthetic indicator proposed by Aragão (2020), through the equation:

$$I_{maturity} = \frac{A_n}{A_+} \quad (16)$$

where A_n is the CC_i valeuof the alternative to be evaluated (Reference DIPAT and Real DIPAT), and A^+ is the CC_i of the Utopian alternative.

From the synthetic indicator, it is possible to determine the maturity level (Table II). Table IV shows the values of each maturity level base on the methodology proposed by Aragão (2020).

Table IV: Maturity Level Values

Level	Values	Qualitative Evaluation
5	> 0,90	Optimized
4	0,90 - 0,75	Managed
3	0,75 – 0,50	Defined
2	0,50 – 0,25	Repetitive
1	< 0,25	Initial

© 2023 Global Journals

Finally, to identify which capabilities should be treated with priority by Real DIPAT (*A*), the proximity index is calculated using the equation:

$$I_{proximity} = A_R^* - A_A^* \quad (17)$$

where A_R^* represents the value of the ideal solution from Reference DIPAT (A_r) and A_A^* represents the ideal solution of Real DIPAT (*A*).

The maturity index determines how close to Real DIPAT it is to Reference DIPAT concerning its process management capabilities. Base on this, the methodology proposes improvements to the process to reach a higher maturity level, which makes the model prescriptive.

c) Model Prescription

To determine the model prescription, it is analyzed the characteristics of each capacity and factors of the BPM-CF model, presented by Rosemann et al. (2006), the PEMM model described by Hammer (2007), and the characteristics of the maturity levels, according to Rosemann et al. (2006). For more details on the prescriptiveness of the proposed model, one can see Appendix 2 (prescriptions for reaching levels 2 and 3) and section 5.2 (prescription for reaching levels 4 and 5).

IV. Application

a) Determining the Weight of the Criteria

To assign weights to the model's capacities, questionnaires were sent by email for peer comparison to apply the AHP method to the heads of the 12 campus campus divisions of a federal public university, with a total of 11 questionnaires answered. After returning the questionnaires, the results were transferred to a matrix, based on the Saaty scale, and the property vector of each decision maker was calculated. Then, the consistencies of the results were verified through equation (2), which resulted in the inconsistency of one of the questionnaires of a decision maker, since the value of the consistency rate was greater than 0, as shown in Table V. This decision-maker's questionnaire was disregarded for the calculation of weights.

Table V: Consistency of AHP Results

Decisors	Consistency Rate	Result
Decisionmaker 1	0,02980	Consistent
Decisionmaker 2	0,06825	Consistent
Decisionmaker 3	0,08296	Consistent
Decisionmaker 4	0,09780	Consistent
Decisionmaker 5	0,05995	Consistent
Decisionmaker 6	0,07847	Consistent
Decisionmaker 7	0,08344	Consistent
Decisionmaker 8	0,08183	Consistent
Decisionmaker 9	0,09472	Consistent
Decisionmaker 10	0	Consistent
Decisionmaker 11	0,50702	inconsistent

This was followed by the application of the entropy method by filling in the decision matrix with the priority vectors of each decision maker, resulting in Table VI.

Table VI: AHP Decisionmatrix

	StrategicAlignment	Governance	Methods	IT	People	Culture
Decisionmaker1	0,153618968	0,17818011	0,1946722	0,1946722	0,22785679	0,05099973
Decisionmaker2	0,081897082	0,49901384	0,06111282	0,11213032	0,12292297	0,12292297
Decisionmaker3	0,22024	0,23683	0,18233	0,04453	0,23229	0,08378
Decisionmaker4	0,040505325	0,28220836	0,13075129	0,16244427	0,35509583	0,02899493
Decisionmaker5	0,184814832	0,21711734	0,1569437	0,24941985	0,10291097	0,0887933
Decisionmaker6	0,154532553	0,26187292	0,04423887	0,28042254	0,10630691	0,15262621
Decisionmaker7	0,062808121	0,05382998	0,20030112	0,21747771	0,4096101	0,05597297
Decisionmaker8	0,093849867	0,10615536	0,33528473	0,27381347	0,12011584	0,07078074
Decisionmaker9	0,397100587	0,16655904	0,15180675	0,1086708	0,103581	0,07228183
Decisionmaker10	0,192307692	0,19230769	0,19230769	0,19230769	0,19230769	0,03846154

Subsequently, the decision matrix was normalized using equations (3) and (4), obtaining the results shown in Table VII.

© 2023 Global Journals

Table VII: Normalization of the AHP Decision Matrix

	Strategic Alignment	Governance	Methods	IT	People	Culture
Decisionmaker 1	0,097	0,081	0,118	0,106	0,115	0,067
Decisionmaker 2	0,052	0,227	0,037	0,061	0,062	0,161
Decisionmaker 3	0,139	0,108	0,111	0,024	0,118	0,109
Decisionmaker 4	0,026	0,129	0,079	0,088	0,180	0,038
Decisionmaker 5	0,117	0,099	0,095	0,136	0,052	0,116
Decisionmaker 6	0,098	0,119	0,027	0,153	0,054	0,199
Decisionmaker 7	0,040	0,025	0,121	0,118	0,208	0,073
Decisionmaker 8	0,059	0,048	0,203	0,149	0,061	0,092
Decisionmaker 9	0,251	0,076	0,092	0,059	0,052	0,094
Decisionmaker 10	0,122	0,088	0,117	0,105	0,097	0,050

Then, entropy was calculated using equations (5), (6), (7) and (8). Table VIII presentstheresults.

Table VIII: Capacity Weight

	Strategic Alignment	Governance	Methods	IT	People	Culture
E_j	1,186	1,213	1,222	1,234	1,213	1,226
D_j	-0,186	-0,213	-0,222	-0,234	-0,213	-0,226
λ_i (weight)	**0,144**	**0,165**	**0,171**	**0,181**	**0,164**	**0,174**

According to the decision makers, the most important capacities for assessing maturity in process management in the sectors that perform their functions (DIPAT) are, respectively: information technology, culture, methods, governance, people and strategic alignment. From the weights of capacities, the weights of the respective factors were assigned with a simple arithmetic mean, as shown in Table IX

Table IX: Capacity Weights and Factors

Capabilities Andfactors	Weights
StrategicAlignment	**0,144**
Factors1,2,3 e 4	0,036
Governance	**0,165**
Fator 5,6,7 e 8	0,041
Methods	**0,171**
Factors9,10,11,12 e 13	0,034
IT	**0,181**
Factors14,15,16 e 17	0,045
People	**0,164**
Factors18,19,20,21 e 22	0,033
Culture	**0,174**
Factors23,24,25,26 e 27	0,035

b) Application of the Maturity Model

First, the model's qualitative variables (factors) were converted to linguistic variables, based on Table III. The linguistic variables used in the model are described in Table X.

Table X: Linguistic Variables of the Proposed BPMMM

Linguistic Variables	Code	*FUZZY* Number			
Veryrare	VR	0	0	1	2
Rare	R	1	2	2	3
Mediumrare	MR	2	3	4	5
Medium	M	4	5	5	6
Frequentmedium	FM	5	6	7	8
Frequent	F	7	8	8	9
Veryfrequent	VF	8	9	10	10

Subsequently, the proposed model was applied in the Reference DIPAT A_r, for a public official who performs his/her function in the property sector, through e-mail; and at Real DIPAT A,to five civil servants who perform their functions in the property sector, via email. All participants answered the model.

© 2023 Global Journals

The linguistic variables were obtained and the result was transferred to the decision matrix represented by Table XI. For Utopian DIPAT A^+, os values correspond to the best alternatives for each factor, considering that A^+ would be an ideal DIPAT (maximum level of maturity).

Table XI: Decision Matrix of Linguistic Variables

Factors	A^+	A_r	*A* (D1)	*A* (D2)	*A* (D3)	*A* (D4)	*A* (D5)
Factor 1	VF	MR	R	FM	MR	FM	M
Factor 2	VF	M	M	M	FM	M	VR
Factor3	VF	FM	M	M	FM	M	M
Factor4	VF	VF	M	M	MR	FM	F
Factor5	VF	R	MR	M	MR	MR	F
Factor6	VF	F	F	FM	F	FM	VF
Factor7	VF	FM	M	M	FM	FM	VF
Factor8	VF	FM	M	MR	FM	M	F
Factor9	VF	M	M	MR	FM	F	F
Factor10	VF	F	F	FM	VF	FM	VF
Factor11	VF	FM	F	FM	F	MR	FM
Factor12	VF	VR	R	F	M	FM	F
Factor13	VF	M	R	FM	R	MR	F
Factor14	VF	M	F	FM	F	F	VF
Factor15	VF	M	M	F	FM	FM	FM
Factor16	VF	M	MR	F	FM	F	M
Factor17	VF	MR	MR	F	FM	FM	VF
Factor18	VF	F	F	F	FM	F	FM
Factor19	VF	F	FM	M	R	VF	VF
Factor20	VF	F	FM	M	F	F	F
Factor21	VF	F	FM	M	F	F	F
Factor22	VF	F	F	F	F	F	F
Factor23	VF	F	F	FM	R	R	F
Factor24	VF	FM	F	VF	MR	MR	F
Factor25	VF	FM	F	F	MR	M	M
Factor26	VF	FM	F	FM	VF	F	F
Factor27	VF	F	F	F	MR	F	FM

The next step consisted of transforming linguistic variables into trapezoidal *fuzzy* numbers, taking Table III as a reference. With the *fuzzy* decision matrix completed, the methodology of Tan *et al*. (2010) to obtain the arithmetic mean of the data of the decision makers (D1, D2, D3, D4 and D5). Then, equation (9) was applied to determine the maximum numerical variable of the evaluation alternatives in each factor, and then equation (10) was applied to normalize it. Then, the matrix was normalized and weighted using equations (11) and (12), resulting in Table XII.

Table XII: Standardized and Weighted Fuzzy Decision Matrix

Factors	Weights	A^+	A_r	*A*
Factor 1	0,036	(0,029; 0,032; 0,036; 0,036)	(0; 0,011; 0,014; 0,018)	(0; 0,016; 0,018; 0,022)
Factor 2	0,036	(0,029; 0,032; 0,036; 0,036)	(0,014; 0,018; 0,018; 0,022)	(0,012; 0,015; 0,017; 0,02)
Factor 3	0,036	(0,029; 0,032; 0,036; 0,036)	(0,018; 0,022; 0,025; 0,029)	(0,015; 0,019; 0,019; 0,023)
Factor 4	0,036	(0,029; 0,032; 0,036; 0,036)	(0,029; 0,032; 0,036; 0,036)	(0,016; 0,019; 0,021; 0,024)
Factor 5	0,041	(0,033; 0,037; 0,041; 0,041)	(0,004; 0,008; 0,008; 0,012)	(0,014; 0,018; 0,021; 0,025)
Factor 6	0,041	(0,033; 0,037; 0,041; 0,041)	(0,029; 0,033; 0,033; 0,037)	(0,026; 0,031; 0,033; 0,036)
Factor 7	0,041	(0,033; 0,037; 0,041; 0,041)	(0,021; 0,025; 0,029; 0,033)	(0,021; 0,026; 0,028; 0,031)
Factor 8	0,041	(0,033; 0,037; 0,041; 0,041)	(0,021; 0,025; 0,029; 0,033)	(0,018; 0,022; 0,024; 0,28)
Factor 9	0,034	(0,027; 0,031; 0,034; 0,034)	(0,014; 0,017; 0,017; 0,021)	(0,017; 0,021; 0,022; 0,025)
Factor 10	0,034	(0,027; 0,031; 0,034; 0,034)	(0,024; 0,027; 0,027; 0,031)	(0,023; 0,026; 0,029; 0,031)
Factor 11	0,034	(0,027; 0,031; 0,034; 0,034)	(0,017; 0,021; 0,024; 0,027)	(0,018; 0,021; 0,023; 0,027)
Factor 12	0,034	(0,027; 0,031; 0,034; 0,034)	(0; 0; 0,003; 0,007)	(0,016; 0,02; 0,021; 0,024)
Factor 13	0,034	(0,027; 0,031; 0,034; 0,034)	(0,014; 0,017; 0,017; 0,021)	(0,011; 0,014; 0,016; 0,019)
Factor 14	0,045	(0,036; 0,041; 0,045; 0,045)	(0,018; 0,023; 0,023; 0,027)	(0,031; 0,035; 0,037; 0,041)
Factor 15	0,045	(0,036; 0,041; 0,045; 0,045)	(0,018; 0,023; 0,023; 0,027)	(0,024; 0,028; 0,031; 0,035)
Factor 16	0,045	(0,036; 0,041; 0,045; 0,045)	(0,018; 0,023; 0,023; 0,027)	(0,023; 0,027; 0,029; 0,034)
Factor 17	0,045	(0,036; 0,041; 0,045; 0,045)	(0,009; 0,014; 0,018; 0,023)	(0,024; 0,029; 0,033; 0,036)
Factor 18	0,033	(0,036; 0,030; 0,033; 0,033)	(0,023; 0,026; 0,026; 0,03)	(0,02; 0,024; 0,025; 0,028)
Factor 19	0,033	(0,036; 0,030; 0,033; 0,033)	(0,023; 0,026; 0,026; 0,03)	(0,017; 0,02; 0,022; 0,024)

© 2023 Global Journals

Factor 20	0,033	(0,036; 0,030; 0,033; 0,033)	(0,023; 0,026; 0,026; 0,03)	(0,02; 0,023; 0,024; 0,027)
Factor 21	0,033	(0,036; 0,030; 0,033; 0,033)	(0,023; 0,026; 0,026; 0,03)	(0,02; 0,023; 0,024; 0,027)
Factor 22	0,033	(0,036; 0,030; 0,033; 0,033)	(0,023; 0,026; 0,026; 0,03)	(0,023; 0,026; 0,026; 0,03)
Factor 23	0,035	(0,028; 0,031; 0,035; 0,035)	(0,024; 0,028; 0,028; 0,031)	(0,015; 0,018; 0,019; 0,022)
Factor 24	0,035	(0,028; 0,031; 0,035; 0,035)	(0,017; 0,021; 0,024; 0,028)	(0,018; 0,022; 0,024; 0,027)
Factor 25	0,035	(0,028; 0,031; 0,035; 0,035)	(0,017; 0,021; 0,024; 0,028)	(0,017; 0,02; 0,021; 0,024)
Factor 26	0,035	(0,028; 0,031; 0,035; 0,035)	(0,017; 0,021; 0,024; 0,028)	(0,024; 0,027; 0,029; 0,031)
Factor 27	0,035	(0,028; 0,031; 0,035; 0,035)	(0,024; 0,028; 0,028; 0,031)	(0,02; 0,023; 0,024; 0,028)

Therefore, the ideal and anti-ideal distance was calculated using equations (13) and (14). For the ideal solution, we considered the factor weights and, for the anti-ideal solution, weight 0 was considered.

In the final step, the proximity coeficiente CC_i was calculated using equation (15). From the proximity coefficient, the maturity level of each evaluation alternative was also calculated using equation (16), as shown in Table XIII.

Table XIII: Proximity Coefficient and Maturity Level

Evaluation Alternatives	d^*	d^-	CC_i	Maturity Index
Utopian DIPAT A^+	0,141	1,723	0,924	1
Reference DIPAT A_r	0,677	1,154	0,630	0,68
Real DIPAT A	0,627	1,199	0,657	0,71

V. Analysis of Results

a) Analysis of the Maturity Level

Based on Table IV, Real DIPAT A presented a maturity level 3. Therefore, it presents a "defined" maturity, with actions in search of building and developing the capacity of process management and expanding the individuals who analyze the organization of a company. process perspective.

Generally, the sector with a level 3 maturity has the combination of the following characteristics (Rosemann *et al*., 2006): (i) use of elaborate tools (for example, process redesign, workflow management and risk management based on in processes); (ii) combination of different process management methods and tools; (iii) wider use of technology for delivery and communication about processes (for example, process designs available to users via the intranet); and (iv) comprehensive and formal training.

Reference DIPAT A_r also presented maturity level 3 and Utopian DIPAT A^+ presented maturity level 5 (optimized), as this alternative serves as the basis for calculating the maturity index. Figure 2 shows the graph on the maturity level of each analyzed DIPAT.

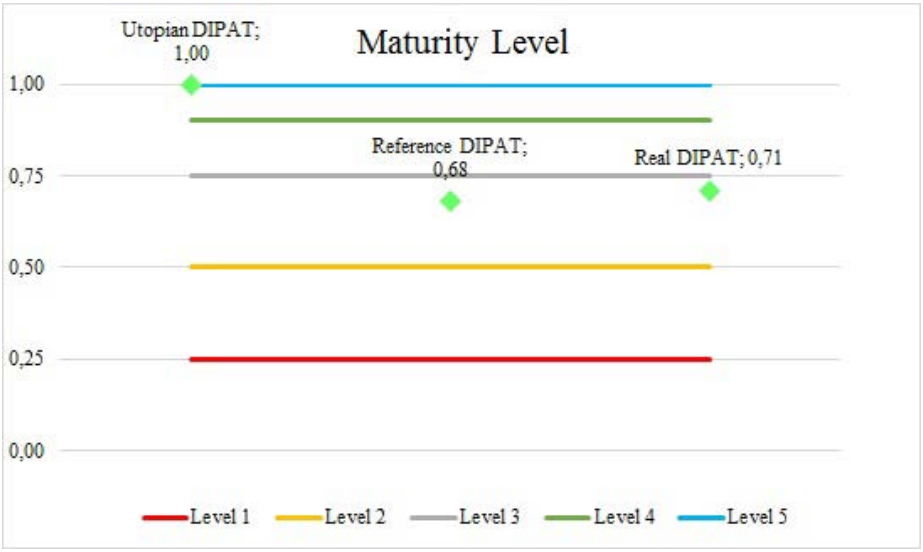


Figure 2: Maturity Level

© 2023 Global Journals

b) Improvement Prescriptions

For the proposed maturity model to be considered prescriptive, it is necessary to drive improvements so that the researched sector is able to reach higher maturity levels.

For this purpose, equation (17) was used to identify which capacities should be prioritized for the improvement of the Real DIPAT, in comparison with the Reference DIPAT. For the interpretation of the proximity index, it is considered: (i) for capacities with values equal to 0, the Reference DIPAT and Real DIPAT have the same performances; (ii) for capacities with values > 0, Real DIPAT outperforms Reference DIPAT; and (iii) for capacities with values <0, Real DIPAT has lower performances than Reference DIPAT.

With the application of the proximity index, the results of Table XIV were obtained.

Table XIV: Proximity Index

	Strategic Alignment	Governance	Methods	IT	People	Culture
Reference DIPAT	0,098	0,121	0,148	0,169	0,055	0,086
Real DIPAT	0,126	0,110	0,112	0,097	0,063	0,105
Proximity index	-0,028	0,011	0,036	0,072	-0,008	-0,019

After the results, it was possible to observe that the strategic alignment, culture and people capacities showed lower performances in the Real DIPAT compared to the Reference DIPAT, with indexes of -0.028, -0.019 and -0.008, respectively. In contrast, the governance, methods and information technology capabilities performed better at Real DIPAT compared to Reference DIPAT, with rates of 0.011, 0.036 and 0.072, respectively.

The Figure 3 illustrates the proximity indexes and the performance of the assessed capacities of Real DIPAT compared to Reference DIPAT.

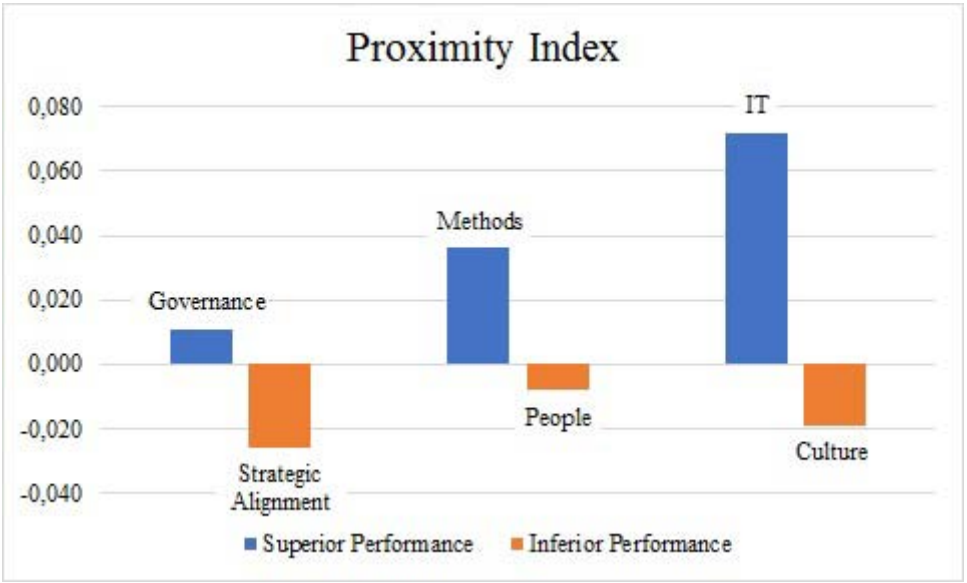


Figure 3: Proximity Index

The results of the proximity indexes made it possible to create an order of priority for the application of improvements, making it possible to continuously improve performance and increase the level of maturity in DIPAT Real's process management. Following are the descriptions of continuous improvement in process management for Real DIPAT, so that it progressively raises its maturity level.

To reach maturity level 4 (managed), the requirements for each capacity follow the order of priority:

- *Strategic Alignment*: measure all processes and monitor their performance, even if in isolation; discuss plans for process improvement in conjunction with other sectors; model processes taking into account executors and other stakeholders and; support improvement plans for process management.
- *Culture*: management must be prepared for major multidimensional changes; stakeholders in the processes must accept the changes and initiate an increasing adaptation to them; management must seek actions for process management, seeking to exaggerate its benefits; all stakeholders in the processes must contribute to the smooth running of the processes; the leadership must seek more

© 2023 Global Journals

actions in the management of the processes, adopting a holistic (global) view of the institution.

- *People*: The sector must have skilled employees in the execution and management of its processes; provide training courses to civil servants for new knowledge and skills relevant to the processes, when possible; work as a team in the execution and in the process improvement projects, in order to achieve the desired results; the employees and the management must be responsible for the results of the processes, and the management must also propose improvements to achieve the desired results and; the head of the sector must delegate control and authority to the executors of the processes.
- *Governance*: Discuss some strategies that can contribute to the improvement of processes; formalize the role of each server in the process, with the attribution of autonomy to act; model processes at the sectoral level and extend to other stakeholders and; exercise formal control over all processes in the sector.
- *Methods*: Design the processes so that they fit with other processes of the institution; document the processes in an electronic and standardized manner; implement and execute the documented processes in a standardized manner; control and measure critical processes and; establish methods to be used in the improvement of processes.
- *Information Technology*: Using an integrated IT system, designed with the processes and adhering to industry standards to support the processes; make equipment and software available that provide specific reports to support the processes; control and measure industry processes with independent IT systems and; apply process improvement and innovation projects supported by an independent IT system.

To reach level 5 of maturity (optimized), the requirements for each capacity follow the order of priority:

- *Strategic Alignment:* Measure all processes, monitor their performance and align them between the sector's operational and strategic team; make process improvement plans part of the sector's strategic cycle; model processes based on the expectations of all stakeholders and; carry out the integration between management and executors, so that the improvement plans are defined together.
- *Culture*: Management must recognize that changes are inevitable for the improvement of processes, provide their support and adopt them whenever necessary; management must recognize the importance and benefits of processes, so that their management actions must be process-oriented; all parts of the processes must be interested in its good progress, proposing improvements and contributing to them and; the leadership must act oriented by the processes and have a holistic (global) view of the institution.
- *People*: The sector must have servers skilled in the execution and management of large-scale processes; provide training to servers to maintain knowledge and skills relevant to the processes, making them skilled in their execution and management; work as a team with other sectors / departments in order to achieve the desired results of the processes; employees and management must be responsible for the results of the processes, proposing improvements to achieve increasingly better results and; leadership must delegate authority to process executors through leadership based on vision and influence, rather than command and control.
- *Governance*: Discuss strategies and action plans to improve the critical processes in the sector; each servant must exercise his responsibility and assume roles, have autonomy to act, while the head.

c) Practical Implications

From the results, the AHP method was considered efficient for the analysis and weighting of capacity weights. The *fuzzy*-TOPSIS method was able to generate a synthetic indicator for the measurement of the maturity level from the data of the alternatives Utopian DIPAT, Reference DIPAT and Real DIPAT.

The scientific literature (BRUIN *et al*., 2005) points out that a maturity model can be applied for descriptive, prescriptive and comparative purposes. The results obtained in the application of the BPMMM proposed in this study, shows that there is a possibility of application for the three purposes, since it enabled the assessment of the current state of maturity of the process management (descriptive); enabled the identification of desirable levels of future maturity, providing guidance for the implementation of improvements (prescriptive); and allowed a comparative analysis between two sectors of different campuses of a federal public university (comparative). In addition, the model can be used in practice as a guide for advances in the performance of processes by any sector and/or institution, public and private; because its generic structure allows its use for the measurement of any process or set of processes.

The quantitative evaluation of the model to obtain the result of the maturity level and prescription of improvements also contributes to its periodic application in practice; as it allows for agile and reliable results, as it is an evaluation with methodological rigor, and allows anyone to apply it, eliminating the need for application by professionals in the process area.

© 2023 Global Journals

Its prescription in order of priority allows managers to analyze which capacities are in a critical state of performance, making it possible to take better targeted actions, according to the reality of each organization.

VI. Conclusions

This study offers a maturity model in BPM, whose main objective is to fill the gaps found in the literature: proposal of maturity models based on the consolidation of existing models, scarcity of BPMMM with prescriptive properties, over-complexity in the application and low flexibility existing models.

The objective of the study was accomplished, the model was structured based on two models of maturity in BPM consolidated from the literature: BPM-CF and PEMM. The model was built to propose continuous improvement actions that enable the achievement of higher levels of maturity gradually, showing a high prescriptive property. In addition, its quantitative assessment, using the methodology of Zola (2019) and Aragão (2020), allowed agility in the results and low complexity in the application, which makes the model applicable by any interested party, without the need of specialists in the area of processes or evaluators external. The proposal for quantitative evaluation gave methodological rigor to the model, minimizing possible subjectivities that could be qualitative models.

The use of the AHP method allowed decision-makers to analyze and consider the importance of each process management capacity, according to the reality of the assessed equity sector. Thus, assigning weights to the model's capabilities becomes a strong point; because each process has its peculiarities; that is, it is possible that each capacity has a different weight for the management of certain processes, as was the case with DIPAT, determining that the most important capacities for its processes, respectively: information technology, culture, methods, governance, people and strategic alignment.

As a result of its application, Real DIPAT presented a maturity level 3 (defined), characterized by actions in search of building and developing the capacity for process management and expansion of individuals who analyze the organization in a process perspective. In addition to the diagnosis of the level of maturity provided to the sector, the model also provided prescriptions for improving the performance of its process management.

The application of the Reference DIPAT maturity model was the basis for the comparison with the maturity of the management of Real DIPAT's processes. This enabled the comparative analysis of critical improvement factors and their prescription in order of priority.

In view of this comparison, the critical improvement capacities, when compared with Reference DIPAT, in order of priority, were: strategic alignment, culture and people. The information technology, methods and governance capabilities performed better at Real DIPAT when compared to Reference DIPAT.

The proposed BPMMM proved to be efficient for measuring the maturity of the processes of the property divisions in the two federal public universities. In addition, the model was able to be applied to assess the current state of maturity of process management (descriptive purpose); for the identification of desirable levels of future maturity, providing guidelines for the implementation of improvements (prescriptive purpose); and for the comparative analysis between two sectors of different campuses (comparative purpose).

Finally, this research contemplates both practical and managerial aspects, as well as theoretical and methodological aspects of process management; considering the construction of a prescriptive maturity model in process management with a multicriteria approach and proposal of prescriptions for continuous performance improvement. The model contributes to the analysis of the performance of processes, allowing their continuous improvement; it can be used in different processes, set of processes, sector and institutions, public or private, due to its flexibility.

As a suggestion for future research involving the theme, the effective application of the model's prescriptions and measurement of results in the impact of the maturity level would be an important complement to the study. In addition, it is also suggested to apply the model in other sectors or institutions, both public and private, to test its effectiveness when applied in processes other than those in the property sector.

References Références Referencias

1. AlShathry, O., (2016), Business process management: a maturity assessment of Saudi Arabian organizations, *Business Process Management Journal,* Vol. 22, No. 3, pp. 507-521. Doi: 10.1108/BPMJ-07-2015-0101.
2. Aragão, F. V., Chiroli, D. M. D. G., Zola, F. C., Aragão, E. V., Marinho, L. H. N., Correa, A. L. C., & Colmenero, J. C. (2023). SmartCitiesMaturity Model-A Multicriteria Approach. Sustainability, 15 (8), 6695.
3. Moizer, P. (2003), "Como a pesquisa acadêmica publicada pode informar as decisões políticas: o caso de rotação obrigatória de nomeações de auditoria", documento de trabalho, Leeds University Business School, University of Leeds, Leeds, 28 de março.
4. Aragão, F.V. (2020), Maturity model for smart cities: a multicriteria approach, thesis (PhD in Production

© 2023 Global Journals

Engineering), Federal Technological University of Paraná, Ponta Grossa.
5. Bruin, T., Rosemann, M., Freeze, R. and Kaulkarni, U., (2005), Understanding the main phases of developing a maturity assessment model. In Bunker, D., Campbell, B., and Underwood, J. (Eds.) *Australasian Conference on Information Systems (ACIS)*. Australasian Chapter of the Association for Information Systems, pp. 8-19. Available at: https://eprints.qut.edu.au/25152/.
6. Chiroli, D. M. D. G., Solek, É. A., Oliveira, R. S., Barboza, B. M., Campos, R. P. D., Kovaleski, J. L., ... & Trojan, F. (2022). Using multi-criteria analysis for smart city assessment. Cidades. Comunidades e Territórios, (44).
7. Chen, C. T. (2000), Extensions of the TOPSIS for group decision making under fuzzy environment, *Fuzzy Sets and Systems*, Vol. 114, No. 1, pp. 1-9. DOI: 10.1016/S0165-0114(97)00377.
8. Chen, C. T., Lin, C. T. and Huang, S. F. (2006), A fuzzy approach for supplier evaluation and selection in supply chain management, *International Journal of Production Economics*, Vol. 102, No. 2, pp. 289–301. DOI: 10.1016/j.ijpe.2005.03.009.
9. Cook, R.L. (1992), Expert systems in purchasing: applications and development. *International Journal of Purchasing and Materials Management*, Vol. 28, No.4, pp. 20-27. Doi: 10.1111/j.1745-493X.1992.tb00577.x.
10. De Boer, F., Müller, C., and ten Caten, C. (2015). Assessment model for organizational business process maturity with a focus on BPM governance practices, *Business Process Management Journal*, Vol. 21, No. 4, pp. 908-927. Doi: 10.1108/BPMJ-11-2014-0109.
11. Dijkman, R., Lammers, S. and de Jong, A., (2015), Properties that influence business process management maturity and its effect on organizational performance. *Information Systems Frontiers*, Vol. 18 No. 4, pp. 717-734. Doi: 10.1007/s10796-015-9554-5.
12. Froger, M., Bénaben, F., Truptil, S. and Boissel-Dallier, N. (2019), A non-linear business process management maturity framework to apprehend future challenges. *International Journal of Information Management,* Vol.49, pp. 290-300. doi: 10.1016/j.ijinfomgt.2019.05.013
13. Hammer, M., (2007), The process audit. *Harvard Business,* Vol. 4, pp. 111-123. Available at: http://modir3-3.ir/article-english/article330.pdf (accessed 6 february 2020).
14. Lima, E., Viegas, R. and Costa, A., (2017), A multicriteria method based approach to the BPMM selection problem. *2017 IEEE International Conference on Systems, Man, and Cybernetics,* pp. 3334-3339. Doi: 10.1109/SMC.2017.8123144.
15. Mahendrawathi, E. R., Hanggara, B. T. B. T. and Astuti, H. M. H. M., (2019), Model for BPM implementation assessment: evidence from companies in Indonesia, *Business Process Management Journal*, Vol. 25 No. 5, pp. 825-859, 2019. Doi: 10.1108/BPMJ-08-2016-0160.
16. Mello, V. G. D., Kovaleski, J. L., Zola, F. C., Lima Junior, F. R., Aragão, F. V., & Chiroli, D. M. D. G. (2022). Proposal of a Fuzzy-QFD model for startup selection. Technology Analysis & Strategic Management, 1-16.
17. Röglinger, M., Pöppelbuß, J. and Becker, J., (2012), Maturity models in business process management, *Business Process Management Journal,* Vol.18, No. 2, pp. 328-346. Doi: 10.1108/14637151211225225.
18. Rosemann, M. and Bruin, T., (2005), Towards a business process managment maturity. *ECIS 2005 Proceedings of the Thirteenth European Conference on Information Systems*. Germany, Regensburg. Available at: thttp://citeseerx.ist.psu.edu/ viewdoc/download?doi=10.1.1.425.681&rep=rep1&type=pdf.
19. Saaty, T. L. (1980), *the analytic hierarchy process*, McGraw-Hill, New York.
20. Saaty, T. L. (1994), *Fundamentals of decision making*, RWS Publications, Pittsburgh.
21. Serrano, M. D., Peral, F.J.B., Casas, F. M. G. and Lozano, M. G. (2011) , Una revisión crítica para la construcción de indicadores sintéticos,*Revista de Métodos Cuantitativos para la Economia y la Empresa*, Vol. 11, pp. 41-70. Available at: https://www.econstor.eu/bitstream/10419/59089/1/684025426.pdf.
22. Soares, A. M., Kovaleski, J. L., Gaia, S., & Chiroli, D. M. D. G. (2020). Building sustainable development through technology transfer offices: An approach based on levels of maturity. Sustainability, 12 (5), 1795.
23. Tan, Y., Shen, L., Langston, C. and Liu, Y. (2010), Construction Project selection usign fuzzy TOPSIS approach, *Journal of Modeling in Management*, Vol. 5, No. 3, pp. 302-315. Doi: 10.1108/17465661011092669
24. Tarhan, A., Turetken, O. and Ilisulu, F.(2015), Business process maturity assessment: state of the art and key characteristics, *Proceedings - 41st Euromicro Conference on Software Engineering and Advanced Applications*, pp. 430-437. Doi: 10.1109/SEAA.2015.50.
25. Tarhan, A., Turetken, O. and Reijers, H. (2016), Business process maturity models: a systematic literature review, *Information and Software Technology*, Vol. 75, pp. 122-134. Doi: 10.1016/j.infsof.2016.01.010
26. van Looy, A., de Backer, M., Poels, G. and Snoeck, M. (2013), Choosing the right business process

© 2023 Global Journals

maturity model, *Information and Management*, Vol. 50 No. 7, pp. 466-488. Doi:10.1016/j.im.2013.06.002.

27. van Looy, A. (2019), Capabilities for managing business processes: a measurement instrument, *Business Process Management Journal,* Vol.26, No. 1, pp. 287–311. doi:10.1108/BPMJ-06-2018-0157.
28. Zeleny, M. (1976). The attribute-dynamic attitude model (Adam), *Management Science*, Vol. 23, No. 1, pp. 1-107. DOI: 10.1287/mnsc.23.1.12.
29. Zola, F. C., Colmenero, J. C., Aragão, F.V., Rodrigues, T. and B. A. Jr. (2019), Multicriterial model for selecting a charcoal kiln, *Energy*, Vol. 190, article 116370. Doi: 10.1016/j.energy.2019.116377.

Appendix 1: Questions of the Proposed Model

STRATEGIC ALIGNMENT
Results Indicators/Metrics
The processes are measured to monitor their performance and are aligned between the sector's operational and strategic team.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Process Improvement Plans
The process improvement plans are part of a strategic sector cycle.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Interested Parts
The processes are modeled after the expectations of all interested parties.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Communication Between the Parties to the Process
The management is integrated with the sector and the improvement plans are defined together with the process executors.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
GOVERNANCE
Decision-Making
Strategies and action plans are discussed for critical sector processes.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Responsibilities and Duties
People have responsibilities in assuming roles, they have autonomy to act and the leadership shares responsibility in the performance of processes.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Process Model
The sector's processes are modeled, extended to other interested parties and used for the development of strategies.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Process Management Control
The sector's processes are formally controlled and continuously reviewed.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
METHODS
Purpose of the Processes
The processes are designed to fit with other processes in order to optimize performance across sectors and/or departments.
( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Process Design

© 2023 Global Journals

The processes are documented in an electronic and standardized way, providing support to their performance, management and analysis for possible reconfiguration.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Implementation and Execution of Processes

The process documentation is implemented and executed with standardization and on an ongoing basis.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Control and Measurement of Processes

Processes are controlled and measured using methods established in the sector.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Process Improvement and Innovation

Innovation techniques are established to improve the critical processes in the sector.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

INFORMATION TECHNOLOGY

Information Systems for Process Management

Existence of a standardized IT system that follows the standards of the sector's processes, assists in the communication between the interested parties, sectors, departments and other institutions, supporting the processes.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Infrastructure for the Execution of Processes

The processes are executed with the support of all necessary IT resources, such as: reports, specific equipment, software, among other technological resources.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Control and Measurement of Processes

Processes are measured and controlled by integrated IT systems.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Innovation and Technological Improvement

Process improvement projects are carried out through the support of integrated IT systems.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

PEOPLE

Skills and Expertise

The sector has servers that have skills in managing and executing processes on a large scale.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Training

The sector provides training to servers to maintain the knowledge and skills relevant to the processes, in order to make them skilled in execution and management.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Team Work

The achievement of the desired results of the processes is obtained from teamwork, extending to other sectors.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Leadership Conduct

The servers (not just the boss) feel responsible for the results of the sector's processes and propose improvements to achieve increasingly better results.

( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

© 2023 Global Journals

Leadership Style The leadership delegates authority to the executors of the processes through leadership based on vision and influence, instead of command and control. ( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
CULTURE
Posture Towards Changes The management recognizes that changes are inevitable for the improvement of processes, provides support and adopts them whenever necessary. ( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Adaptation to Changes Stakeholders accept and adapt to changes in industry processes. ( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Beliefs and Values Related to Processes The management recognizes the importance and benefits of the processes, so that its management actions are process-oriented. ( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Attitudes and Behaviors The servers involved and affected by the sector's processes are concerned with the way the processes are executed, propose improvements and are willing to contribute to the smooth running of the processes. ( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)
Leaders' Commitment to Processes The leadership acts oriented by the processes and has a holistic (global) view of the institution. ( ) Very rare (VR) ( ) Rare (R) () Medium rare (MR) ( ) Medium (M) ( ) Frequent medium (FM) ( ) Frequent (F) ( ) Very frequent (VF)

Appendix 2: Requirements for Levels 2 and 3

CAPACITY	LEVEL	PRESCRIPTION
Strategic alignment	2	▪ Start measuring some processes; ▪ Discussion of improvement plans among the sector's operational servers; ▪ Model the processes from the perspective of the executor; ▪ Some server or group of servers initiate the support of improvement plans for the management of the sector's processes.
	3	▪ Measure all processes and monitor their performance, even if in isolation; ▪ Discuss process improvement plans in conjunction with other sectors; ▪ Model the processes taking into account the executors and other interested parties; ▪ The sector supports improvement plans for the management of processes.
Governance	2	▪ Carry out structured decision making; ▪ Possibility for employees to identify themselves with certain processes and informally assume responsibility for the improvement initiative; ▪ Model the processes; ▪ Exercise informal process controls.
	3	▪ Discuss the critical processes in the sector; ▪ Identify the areas and servers that act in the processes and indicate them to assume the responsibilities that they are responsible for; ▪ Model processes at the sectoral level; ▪ Exercise formal control over some of the sector's processes.

© 2023 Global Journals

Methods	2	▪ Use an existing (inherited) model of processes for the sector; ▪ Build or use a process design that is functional and identifies the connections between other sectors / departments / institutions; ▪ Document the processes for implementation and execution, even without standardization; ▪ Control and measure some processes; ▪ Improve processes systematically, even without the establishment of a specific method.
	3	▪ Redesign end-to-end processes to optimize their performance; ▪ Document the design of the end-to-end processes; ▪ Deploy and execute some of the documented processes; ▪ Control and measure some of the sector's processes, with an established method; ▪ Establish methods to be used to improve some processes.
Information Technology	2	▪ Use an IT system, even fragmented (without communication between the interested parties), to support the processes; ▪ Provide the necessary equipment to support the processes; ▪ Control and measure any of the processes with the help of an IT system; ▪ Discuss possible improvements and innovations applicable to processes.
	3	▪ Use an IT system built from functional components to support the processes; ▪ Provide specific equipment and software to support the processes; ▪ Control and measure the sector's processes with the help of an IT system; ▪ Apply projects to improve and innovate processes supported by an IT system.
People	2	▪ The sector must have some servers that have skills in executing the processes; ▪ Discuss possible training plans for civil servants; ▪ Work as a team in some occasional processes; ▪ The management must be responsible for the results of the processes; ▪ The sector must change the hierarchical style, from top to bottom, to an open and collaborative style.
	3	▪ The sector must have some servers that have the ability to execute and manage isolated processes; ▪ Eventually providing training courses for civil servants; ▪ Work as a team in process improvement projects; ▪ The employees and the management must be responsible for the results of the processes; ▪ The sector must show the need to change, considering processes as the main tool for change.
Culture	2	▪ Increased acceptance by management about the need to make minor changes to processes; ▪ Increased acceptance by stakeholders in accepting process changes; ▪ The management must carry out the process management actions aimed at complying with the rules; ▪ The sector must take actions for the smooth running of the processes; ▪ The leadership, even if focused only on their activities, should pay some attention to the management of the sector's processes.
	3	▪ The management must be prepared for significant changes in the way the work is carried out; ▪ Stakeholders in the processes must accept significant changes;

© 2023 Global Journals

		▪ The management must carry out the process management actions, not only aiming to comply with the rules, but spontaneously; ▪ The sector must propose improvements to guarantee the progress of the processes; ▪ The management must seek more actions in the management of the sector's processes.

© 2023 Global Journals

Global Journal of Management and Business Research: A Administration and Management
Volume 23 Issue 10 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

A Survey on Digitization of Shed Management for Indian Railways

By Aditya Muley, Aryan Umale, Gyanprakash Narayan & Rajendra Yelalwar

Abstract- This survey paper traverses the field of website-based solutions from the outlook of enhancing the work efficiency of any organization or institution, particularly establishment with less technically skilled workforce. The paper provides a comprehensive overview on web development in a great way spanning from the state of the field, current trends, important technologies and evaluating data across the sub domains of the paramount technological footprints. Discussion on hurdles faced by developers in creating solutions using optimal tech pool. We have provided context and motivation for future developers by compiling summaries for various research work that has been documented in formal of articles, journals, conference papers, etc. Both the aspects of frontend and backend are being taken into consideration as well as their integration for the build out of a working real-world project. We have also discussed the key bottleneck areas that may become hinderance for the beginners in this field, while also assisting the experts on points further research and exploration.

Keywords: shed management, locomotive workshop management, job scheduling, architecture, digitization, infrastructure, performance optimizations.

GJMBR-A Classification: LCC:HE3311-5500



Strictly as per the compliance and regulations of:

© 2023. Aditya Muley, Aryan Umale, Gyanprakash Narayan & Rajendra Yelalwar. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BYNCND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative-commons.org/ licenses/by-nc-nd/4.0/.

A Survey on Digitization of Shed Management for Indian Railways

Aditya Muley [α], Aryan Umale [σ], Gyanprakash Narayan [ρ] & Rajendra Yelalwar [ω]

Abstract- This survey paper traverses the field of website-based solutions from the outlook of enhancing the work efficiency of any organization or institution, particularly establishment with less technically skilled workforce. The paper provides a comprehensive overview on web development in a great way spanning from the state of the field, current trends, important technologies and evaluating data across the sub domains of the paramount technological footprints. Discussion on hurdles faced by developers in creating solutions using optimal tech pool. We have provided context and motivation for future developers by compiling summaries for various research work that has been documented in formal of articles, journals, conference papers, etc. Both the aspects of frontend and backend are being taken into consideration as well as their integration for the build out of a working real-world project. We have also discussed the key bottleneck areas that may become hinderance for the beginners in this field, while also assisting the experts on points further research and exploration.

Keywords: shed management, locomotive workshop management, job scheduling, architecture, digitization, infrastructure, performance optimizations.

I. Introduction

The effective administration of locomotive sheds is essential to the successful operation of railway systems. In order to maintain the operating preparedness and safety of locomotives, locomotive sheds are essential centers for their maintenance, repair, and upkeep. Locomotives are subjected to strict schedules, strenuous maintenance procedures, and a wide range of repairs because they constitute the foundation of railway operations. [20] The timely and efficient administration of these locomotive sheds is crucial for maximizing resource allocation, reducing operating downtime, and ensuring service reliability.

The field of shed management has undergone a transformation in recent years due to the introduction of digital technologies and data-driven solutions. Modern shed management systems that make use of real-time tracking, sophisticated analytics, and automation are progressively replacing conventional manual operations. These systems give railway administrators and shed managers the power to properly allocate resources, monitor locomotive positions, and streamline repair operations. [40] Modern shed management systems also include role-based access control methods to make sure that various authorities have access to the information and activities of the shed at the proper levels. [40]

This survey report starts an investigation of the current state of locomotive shed management. It goes into the many facets of shed administration, covering everything from workflow optimization to role-based access control and locomotive location tracking and monitoring. This survey seeks to provide a complete overview of the cutting-edge shed management systems and their impact on the railway sector by a thorough analysis of pertinent literature, research papers, and best practices.

The paper's organization aims to provide insights into the shed management components, such as real-time location tracking, assigning locomotives to maintenance departments, access control, data integration, and security issues. We want to pinpoint trends, obstacles, and possibilities in the area of locomotive shed management by reviewing the body of research and case studies.

This report also acknowledges the crucial part shed management plays in improving operational performance, cost-effectiveness, and customer satisfaction in railway operations. We will highlight significant findings, new technologies, and future directions as we read through the literature since they have the potential to influence how shed management systems develop in the future.

In conclusion, this survey article offers shed managers, railway authorities, and scholars' useful insights into shed management for locomotive sheds. It aims to provide a deeper comprehension of shed management concepts, best practices, and the industry-changing effects of technology.

II. Literature Survey

Effective shed management is essential for locomotive sheds because it guarantees the best upkeep and repair of locomotives while minimizing downtime and operating expenses. The historical evolution of shed management techniques highlights its significance and gradual growth. Complexity in resource distribution and the requirement for effective

Author α σ ρ: Student, Department of Electronics and Telecommunications, SCTR's Pune Institute of Computer Technology Pune, India.
e-mail: gyanprakashnarayan01@gmail.com
Author ω: Assistant Professor, Department of Electronics and Telecommunications, SCTR's Pune Institute of Computer Technology Pune, India.

© 2023 Global Journals

coordination of repairs are obstacles. [27] Real-time position tracking, workflow optimization, role-based access control, data integration, and security are just a few of the elements that make up shed management. Real-time locomotive monitoring is made possible by tracking technology like GPS and RFID, which improves resource allocation. Lean and Six Sigma workflow optimization approaches are used to speed up the repair process. Access control using roles protects shed operations. [40] For the railway sector to establish efficient shed management systems that promote efficiency and dependability, it is crucial to understand these components.

The modern world depends on complex systems operating effectively, whether in the fields of transportation, online development, or maintenance optimazation. Our reliance on complex networks, technologies, and infrastructure grows along with society. Researchers and practitioners must conduct research and develop techniques to improve the performance, dependability, and overall efficacy of these systems to manage this always changing environment.

This survey study launches a thorough investigation of a variety of research publications, each of which offers unique insights into specific topics. Despite their apparent differences, these studies all share the same objective: to improve system administration and optimization. These articles, which span a variety of fields including web development, logistics in transportation, and maintenance planning, jointly shed light on complex problems and creative solutions. It delves into a diverse array of subjects, including the latest web technologies, innovative design approaches, user-centric design principles, accessibility standards, search engine optimization strategies, and emerging development tools.

a) Web Development and Technologies

Web design and development is a key component of technological advancement in the digital era. The article "A Survey on Current Technologies for Web Development" explores the web applications' continuing value while highlighting the rise of progressive web apps (PWAs). [1], [12] The significance of technology stacks in web development and their impact on market penetration and performance are emphasized in the article. [21] In this situation, choosing the right technology stacks becomes crucial, and making the wrong option could spell project failure.[17], [19] The report examines various technologies, including Node.js, MongoDB, and JavaScript, outlining their benefits and drawbacks.[22] Also discussed are the ramifications of the developing field of computer vision for material handling and 3D parcel processing. Therefore Web-applications provide a good solution for Shed management. [25]-[27]

b) Shed Management for Locomotive Sheds

The smooth running of transportation systems depends on the efficient management of locomotive sheds. [16] An innovative idea is presented in the research paper "Shed Management for Locomotive Shed"- a web-based platform for tracking and coordinating locomotive repair among various departments inside a locomotive shed. [20] This system, which is created to give various authorities different levels of access, is a viable option for streamlining maintenance tasks and enhancing shed management in general. [18] It serves as evidence of the integration of digital technology with transportation logistics, showing the possibility for increased productivity in a long-established sector. [37]- [40].

c) Template Engine for Web Backend

The creation of a web backend template is a complex operation that is essential for the development of web applications. Modularity is king in this process because it promotes the separation of concerns and the maintainability of the code. [19] REST ful APIs, which follow the REST principles, guarantee consistent frontend and backend communication. [10] Node.js and the Go language provide strong alternatives for authentication and authorization, which is crucial because of security. [2]-[6] Known for its asynchronous capabilities, Node.js is frequently used for real-time applications, and Go is a great option for high-performance backends due to its efficiency. Thorough documentation, [28] middleware for functions like error handling and input validation, and a well-structured database schema are necessary. [7]- [15]

d) Load Balancing in Computing Systems

For distributed computing systems to operate at their best, effective load balancing is essential. [32] The article "Comparative Studies of Load Balancing with Control and Optimization Techniques" provides insightful information about load balancing in database memory management. The paper compares and analyzes optimization n-based and control-based methods for database memory load balancing, highlighting their similarities and differences. [33] The paper improves our knowledge of performance optimization in computing systems by presenting load balancing as a restricted optimization problem. This study emphasizes the crucial function of load balancing in distributed computing, particularly in relation to database systems. [34], [35]

e) Measuring Website Quality of Indian Railways

In a time where digital interfaces predominate, the caliber of websites can have a big impact on user pleasure. "Measuring Website Quality of the Indian Railways" investigates the website's quality through a thorough evaluation. Using characteristics developed from a literature analysis, user interviews, and observations, the study contrasts the website's quality

© 2023 Global Journals

with that of an idealized counterpart. [20] The findings show a significant discrepancy between user expectations and the functioning of the website. The importance of a high-quality website in increasing user happiness is emphasized, as is the possibility for cost savings and better customer service with effective web-based ticketing.

f) Role-Based Access Control (RBAC)

A key component of system security is access control, and RBAC provides a strong framework for controlling access to resources. The article "Research and Application of Role-Based Access Control Framework" investigates the value of the RBAC framework in ensuring secure access to system resources. The study digs into the fundamental ideas behind RBAC, highlighting the crucial part that roles play in mediating user access. Additionally, it covers the usage of RBAC outside of conventional Active Directory setups, providing details on dynamic changes to user capabilities and database independence.[36] The significance of access control in protecting sensitive systems and data is highlighted by this study and hence RBAC can be used in a web application for shed management. [30], [31]

g) Maintenance Optimization in Transportation

The proper maintenance of vital parts, like diesel locomotives, is essential for the efficient running of transportation systems. A thorough study on the optimization of maintenance procedures to improve performance and reliability is presented in "Maintenance Optimization in Transportation Systems". Preventive, condition-based, and corrective maintenance are some of the different maintenance strategies that are examined in the study report. The complex links between maintenance procedures and system performance are captured using mathematical models. [38] The success of the suggested maintenance optimization solutions is validated by case studies and simulations, which show considerable improvements in locomotive availability, reliability, and overall performance.

It quickly becomes clear that the search for excellence in system management is a multidisciplinary undertaking as we start this study of various research articles. We get a deeper grasp of the complex dynamics that propel advancement in our increasingly convoluted and linked world by examining the primary results, techniques, and consequences of these works. [39] Hence, a web application for Shed management will lead to a better Maintenance Optimization in Transportation.

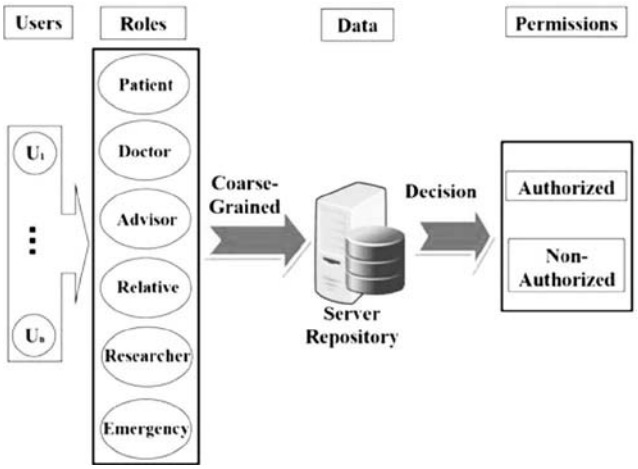


Figure 1: Role Based Access Control

Here is a comparison of 25 research articles that are relevant to our study, displaying the various technologies utilized, their various implementations, and brief summaries for each.

© 2023 Global Journals

Table 1: Summary of Referenced Research Papers

Sr. No.	Work/Paper Title	Author	Main Tech Domain	Sub Tech Domain	Features	Summary
1.	A Survey on Current Technologies for Web Development (2020) [1]	*A. V. Akhil Krishna & Dr. Padmashree T*	Web Technology	Languages, Frameworks, Techstack	– Scalability – Optimal performance	This paper examines various technologies used in web development, with a particular focus on Node.js, Mongo DB, and JavaScript.
2.	Research and Application of Template Engine for Web Backend Based on My Batis-Plus (2019) [2]	*Yao Zhang et al.*	Backend Technology	Template engine	– MVC pattern – SSM framework – RESTful coding	This paper discusses software development, specifically focusing on back-end web service development using Java Web & separation of front-end and back-end development, with different professionals handling each part.
3.	Comparative Studies of Load Balancing with Control and Optimization Techniques (2005) [33]	*Yixin Diao et al.*	Backend Development	Load Balancing, Database, Server, Feedback controlling	– DB2 Universal Database Server – constrained optimization – marginal gains	It presents load balancing as a constrained optimization problem and explores two load balancing controllers developed using feedback control and optimization theory.
4.	Design and Development of Backend Application for Public Complaint Systems Using Microservice Spring Boot(2017) [19]	*Hatma Suryotrisongko et al.*	Backend Development	Microservice technology, microservice architecture	– Springboot framework	The paper discusses a research study that developed a public complaint application using a microservice architecture and the Spring boot framework, which was deployed in the cloud.
5.	Enhancing the Performance of the Website through Web Log Analysis and Improvement (2012) [24]	*Arvind K Sharma, & P C Gupta*	Monitoring and Logging	Web traffic, Web log files	– Webalizer – Web log analysis – Volume analysis	The paper is organized into different sections, including a description of web logs, related work, experiments and results, and a conclusion with future work. The paper also discusses the analysis of daily activity statistics from a web server to enhance website and business performance.
6.	Web Load Balance and Cache Optimization Design based Nginx Under High Concurrency Environment (2012) [35]	*Xiaoni Chi*	Backend Development	Load balancing, Caching, Concurrency	– Nginx – cluster environment – Web caching optimization	Paper result indicated that an Nginx-based program is not only viable but also highly effective, making it ideal for high concurrency environments that rely on load balancing and caching
7.	Secure Access to the Network Infrastructure(2019)[32]	*Jeff Hayes & Alcatel Ind*	Web Security	Network security, authentication	– Kerberos – multiple-factor authentication – firewalls	This paper discusses the importance of robust network security measures, with a particular focus on authentication techniques.
8.	Light-weight Authentication & Authorization Protocol for Seamless Video Services Application (2011) [31]	*Jia-Yin Tian et al.*	Web Security	Authentication & Authorization Protocol	– SVSAAP – EAP-TLS – HB series protocols	The authors outline the structure and functionality of SVSAAS and present SVSAAP, an associated protocol based on Challenge Response Handshake Authentication Protocol and lightweight certificates.
9.	Authentication and Authorization in microservices Architecture: A Systematic Literature review (2022) [30]	*Murilo Almeida & Edna Canedo*	Web Security	Microservices, Authentication and authorization, API Gateway	– O Auth 2.0 – JWT – Open ID Connect	The paper highlights a significant gap in research related to security in microservices architecture, particularly concerning authenti-cation and authorization. Several mechanisms, such as OAuth 2.0, Json Web Token (JWT), and API Gateway, can mitigate security risks, but more practical implementations are needed.
10.	A Performance Comparison of Cloud-based Container	*Yao Pan et al.*	Cloud	Infrastructure-as-a-Service, Virtual	– Docker Swarm – Kubernetes	In this paper we compare the benefits and overheads incurred by the most popular open-source container

© 2023 Global Journals

	Orchestration Tools (2015) [15]			Machines (VMs) and containers, leading container orchestration		orchestration tools currently available, namely: Kubernetes and Docker in Swarm mode. We undertake a number of benchmarking exercises from well-known benchmarking tools to evaluate the performance overheads of container orchestration tools and identify their pros and cons more generally.
11.	IoT for sustainable railway transportation: Past, present, and Future (2022) [16]	*Prasant Singh et al.*	Web technology	IoT, Green tech	– WSN – LTE – LPWAN – Fog nodes	This paper summaries the impact of IoT in railways and the overall supply chain having rail transport as its part. Further case studies are discussed over inclusion of other modern tech like RFID, NFC tags, etc.
12.	Measuring website quality of the Indian Railways (2015) [20]	*Rajesh Kumar Jain & Santosh Rangnekar*	Frontend	UI/UX	– Data Collection – Single factor ANOVA	This paper discusses the benefits of having websites in public sector taking Indian railways as a case study and evaluated its outcome over tens of parameters and suggests implementation future advancements.
13.	A comparative study on internet application development tools (2010) [22]	*Lavanya Rajendran et al.*	Web technology	Development tools	– AJAX – ASP – ASP DOT	This paper shows web development technique that allows for asynchronous communication between a web browser and server, enabling dynamic content updates without requiring a full page reload. Evaluates AJAX, ASP, ASP DOT framework, etc.
14.	Go Programming Language: Overview (2022) [23]	*Meky Nurwina A. Quirante et al.*	Programming language	Golang	– Scalability – Concurrency – Open-source	The article provides an overview of the Go programming language (Golang), highlighting its simplicity, efficiency, and suitability for concurrent and scalable applications. It discusses Go's key features, including goroutines, channels, and its standard library, making it an appealing choice for modern software development. The article emphasizes Go's role in web development, cloud services, and microservices architecture.
15.	Research and application of Node.js core technology (2020) [24]	*Xiaoping Huang et al*	Programming language	Javascript	– Runtime environment – Threading – Event driven	This paper provides an overview to Node.js, highlighting its event-driven, non-blocking architecture for building fast and scalable server-side applications. It emphasizes its popularity in web development due to its performance and large ecosystem of modules.
16.	Usability evaluation of web support frameworks (2015) [27]	*Marcela Constanzo & Sandra Casas*	Web technologies	Framework	– Documentation – Quality Attributes – Quality Metrics	The article discusses the assessment of web support frameworks in terms of usability. It explores methods and criteria for evaluating the user-friendliness and effectiveness of these frameworks, aiming to aid developers in making informed choices when selecting web support tools. The article may provide valuable insights into the usability landscape of such frameworks.
17.	A performance comparison of SQL and No SQL databases (2015) [6]	*Yishan Li & Sathiamoorthy Manoharan*	Database	DBMS	– Queries – Data models – CRUD model	This paper discusses the fundamental differences between NoSQL and SQL databases, highlighting how NoSQL databases excel in handling unstructured data and providing horizontal scalability. It also emphasizes that SQL databases remain a strong choice for structured data and complex querying, making the choice between the two dependents on specific project requirements.

© 2023 Global Journals

18.	Choosing the right NoSQL database for the job: a quality attribute evaluation (2015) [4]	*Joao Ricardo Lourenco et al.*	Database	NoSQL	– Key-value – Graph – ACID	This paper explores the rise of NoSQL databases, highlighting their flexibility and scalability in handling unstructured data. It discusses their increasing adoption in various industries and their role in reshaping modern 188data management strategies. Various attributes are evaluated, and performance is articulated.
19.	A case study of web API evolution (2015) [9]	*S. M. Sohan et al.*	API	-	– RESTful – SOAP – WSDL – JSON	This case study explores the challenges, changes, and strategies employed during the API's development and evolution. The study provides valuable insights into best practices for managing and adapting web APIs over time.
20.	Optimizing Vehicle Repairs Scheduling Using Mixed Integer Linear Programming: A Case Study in the Portuguese Automobile Sector (2023) [40]	*Fátima Pilar et al.*	Job scheduling	-	– MILP – Mathematical optimization	It focuses on improving efficiency and resource allocation in repair shops. The study presents a case study demonstrating the effectiveness of MILP in reducing repair times and increasing service quality. The approach offers a practical solution for managing repair scheduling challenges in the automotive industry.
21.	Analysis of the popularity of programming languages in open-source software community (2020) [25]	*Dougdong Lu et al.*	Programming languages	-	– Gitee – Cluster Analysis – Binary matching	The article examines the popularity of programming languages within the open source software community. It analyzes data and trends to identify the most widely used languages, highlighting Python and JavaScript as dominant choices. The study sheds light on the preferences of open-source developers, informing decisions related to language selection and collaboration within the community.
22.	Survey on server-less computing (2021) [3]	*Hassan B. Hassan et al.*	Cloud	Cloud computing	– Serverless computing – Edge computing – FaaS	The paper explores how serverless computing, exemplified by platforms like AWS Lambda and Azure Functions, streamlines development by abstracting infrastructure management, offering cost savings, and auto-scaling capabilities, while also touching on potential challenges such as vendor lock-in and security.
23.	Use chaos engineering to assess application reliability (2009)[41]	*Robert Barron*	DevOps	CI/CD pipeline	– Static analysis – Test automation	This article showcases Chaos engineering is a practice of intentionally introducing controlled failures and disruptions in a system to uncover vulnerabilities and weaknesses, ultimately improving its resilience and reliability.
24.	How companies are benefiting from Web 2.0 (2009) [32]	*Jacques Bughin*	Web technology	Marketing	– –	A report from McKinsey Quarterly, on how companies across the global benefitted from implementation of web-based solution
25.	A survey paper on Role Based Access Control (2013) [36]	*Dipmala Salunke*	Application security	IAM	– Hierarchical structure – ACLs – Permissions and privileges	This survey explores RBAC significance in managing permissions by assigning roles to users, enhancing security, and simplifying administration. It reviews RBAC models, implementation methods, and evolving trends, highlighting its widespread adoption.

III. Conclusion

An essential part of the railway system, locomotive shed management has changed significantly in recent years. This survey article has offered a thorough review of locomotive shed management, examining several aspects that contribute to the effective operation and upkeep of locomotives within these crucial facilities.

© 2023 Global Journals

Despite clear advancements in shed management systems, difficulties persist. The complexity of railroad operations, the requirement for system compatibility, and the constantly growing nature of technology necessitate constant adaptation and innovation. Strong techniques for data protection and system integrity are required due to security concerns, especially in a time of rising cyber threats.

Future developments in shed management systems are anticipated thanks to rising technologies including the Internet of Things (IoT), predictive maintenance, and advanced analytics. The railway sector could undergo a revolution if these technologies are adopted and a commitment to data-driven decision-making is made.

In conclusion, managing sheds for locomotives is a strategic necessity as well as a logistical one. The operational dependability, prices, safety, and customer satisfaction all increase with effective shed management systems. To ensure the sustained effectiveness of shed management techniques as the railway industry embraces digital transformation, it is imperative to exercise caution, adapt to new technology, and work together throughout the ecosystem. Hence, we propose digitization of shed management using technologies like web developments is necessary to fully utilize shed management systems and move the railway sector toward a more sustainable and efficient future, shed managers, railway authorities, and researchers must collaborate.

References Références Referencias

1. A. V. Akhil Krishna, Dr. Padmashree T." A Survey on Current Technologies for Web Development." International Journal of Engineering Research & Technology (IJERT) Vol. 9 Issue 06, June-2020.
2. Yao Zhang Li, Sheng Gao, Jing Pan, Bi Feng Guo, and Pei Feng Xie." Research and Application of Template Engine for Web Back-end based on My Batis-Plus." Detection Systems ICMIR, 2019.
3. Hassan B. Hassan, Saman A. Barakat and Qusay I. Sarhan." Survey on serverless computing." Journal of Cloud Computing: Advances, Systems and Applications (2021).
4. João Ricardo Lourenço, Bruno Cabral, Paulo Carreiro, Marco Vieira and Jorge Bernardino." Choosing the right NoSQL database for the job: a quality attribute evaluation." Journal of Big Data (2015).
5. Hao Zhong, Hong Mei." An Empirical Study on API Usages." JOURNAL OF LATEX CLASS FILES, VOL. 14, NO. 8, AUGUST 2015.
6. Yishan Li and Sathiamoorthy Manoharan." A performance comparison of SQL and NoSQL databases." Proceedings of the IEEE 2015.
7. Qi Shen, Shijun Wu, Yanzhen Zou*, and Bing Xie "Comprehensive Integration of API Usage Patterns." arXiv: 2103.11683v1 22 Mar 2021.
8. S M Sohan, Frank Maurer, Craig Anslow, Martin P. Robillard. "A Study of the Effectiveness of Usage Examples in REST API Documentation." 2017 IEEE Symposium on Visual Languages and Human-Centric Computing (VUHCC).
9. S M Sohan, Craig Anslow, Frank Maurer. "A Case Study of Web API Evolution" 2015 IEEE World Congress on Services.
10. Florian Haupt, Frank Leymann, Anton Scherer, Karolina Vukojevic-Haupt. "A Framework for the Structural Analysis of REST APIs." 2017 IEEE International Conference on Software Architecture.
11. Lauren Murphy, Mary Beth Kery, Oluwatosin Alliyu, Andrew Macvean. " API Designers in the Field: Design Practices and Challenges for Creating Usable APIs." 2018 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC).
12. Arun Rarnamurthy*. Saket Saurabht, Dr, Mangesh Gharotet and Dr. Sachin Lodhal. "Selection of Cloud Service Providers for Hosting Web Applications in a Multi-cloud Environment.
13. Hassan B. Hassan1, Saman A. Barakat2 and Qusay I. Sarhan2. "Survey on serverless computing." Journal of Cloud Computing: Advances, Systems and Applications."
14. LithosMercl and Jakuh Pavlik "The Comparison of Container Orchestrators." arXiv preprint arXiv: 1409.2329 (2014).
15. Yao Panl, Ian Chen', Francisco Brasileiro2, Glenn Jayaputeral Richard 0. Sinnottl. "A Performance Comparison of Cloud-based Container Orchestration Tools." In Proceedings of the IEEE international conference on computer vision, pp. 1-9. 2015.
16. Prashant Singh a, Zeinab Elmi a, Vamshi Krishna Meriga a, Junayed Pasha b, Maxim A. Dulebenets. "Internet of Things for sustainable railway transportation: Past, present, and future." Science Direct. 2022.
17. Sanja Delčev, Dražen Drašković. "Modern JavaScript frameworks: A Survey Study".
18. Yao Zhang Li' Sheng Gaol'* Jing Pane, Bi Feng Guol, Pei Feng Xie*1* " Research and Application of Template Engine for Web Back-end Based on My Batis-Plus." 3rd International Conference on Mechatronics and Intelligent Robotics (ICMIR-2019).
19. Hatma Suryotrisongko*, Dedy Pujl Jayanto, Aris Tjahyanto. "Design and Development of Backend Application for Public Complaint Systems Using Microservice Spring Boot" 4th Information Systems International Conference 2017. ISICO 2017, 6-8 November 2017, Bali, Indonesia.

© 2023 Global Journals

20. Rajesh Kumar Jain, Santosh Rangekar "Measuring Website Quality of Indian Railways." International Journal of Entrepreneurial Knowledge Issue 1/2015, Volume 3.
21. Darniano Distante. "Evolution of Web Systems" researchgate pubiication/264-524613 December 2014.
22. Lavanya Rajendran. "A Comparative Study on Internet Application Development Tools" in international Journal of Engineering Science and Technology - October 2010.
23. Darltaine Lincopinis, Meky Nurwina Quirante "Go Programming Language: Overview." Research gate publication /371166473.
24. Xiaoping Huang." Research and Application of Node.js Core Technology." 2020 International Conference on Intelligent Computing and Human-Computer Interaction (ICHCI).
25. Dongdong, Jic Wul Yongxiang Shengt and Mengmeng Yang2. "Analysis of the popularity of programming languages in open-source software communities." 2020 International Conference on Big Data and Social Sciences (ICBDSS).
26. V. Okanovic "Web Application Development with Component Frameworks." M1PRO 2014, 26-30 May 2014, Opatija, Croatia.
27. Marcela Alejandra Constanzo, et al. "Usability Evaluation of Web Support Frameworks." IEEE Conference on Websites development IEEE, 1-9. (2015) MATEC Web of Conferences 232, 01052 (2018).
28. Manisha Agarwal, Sej al Samaiya. "REAL TIME DATABASE MANAGEMENT SYSTEM. "Proceedings of the Second International Conference on Inventive Systems and Control (ICISC 2018).
29. Innocent Mapanga, Prudence Kadebu "Database Management Systems: A NoSQL Analysis" International Journal of Modern Communication Technologies & Research (IJMCTR) ISSN: 2321-0850, Volume-1, Issue-7, September 2013.
30. De Almeida, M.G.; Canedo, E. D. Authentication and Authorization in Microservices Architecture: A Systematic Literature Review, *Appl. Sri.* 2022, *12, 3023*.
31. Tian, J.-Y., Yang, C., Zhang, Y.-C., & Liu, J.-B. (2011). "Light-Weight Authentication & Authorization Protocol for Seamless Video Services Application. 2011 International Conference on Internet Technology and Applications".
32. Jacques Bughin "How companies are benefiting from Web 2.0".
33. Yixin Diao, Chai Wah Wu, Hellerstein, J. L., Storm, A. J., Surendra, M., Lightstone, S., … Colaco, J. (n.d.). Comparative studies of load balancing with control and optimization techniques. Proceedings of the 2005, American Control Conference, 2005. doi: 10.1109/acc.2005.1470175.
34. Arvind K. Sharma, P.C. Gupta "Enhancing the Performance of the Website through Web Log Analysis and Improvement" International Journal of Computer Science and Technology (2012).
35. Chi, X., Liu, B., Niu, Q., & Wu, Q. (2012). Web Load Balance and Cache Optimization Design Based Nginx under High-Concurrency Environment. 2012 Third International Conference on Digital Manufacturing & Automation. doi: 10.1109/icdma.2012.241.
36. Dipmala Salunke "A survey paper on Role Based Access Control" International Journal of Advanced Research in Computer and Communication Engineering Vol. 2, Issue 3, March 2013.
37. Somjit Arch-int "Development of industrial information systems on the Web using business components" Science Direct Volume 50, Issue 2, February 2003, Pages 231-250.
38. Rodrigo Pita Rolle; Vinícius de O. Martucci; Eduardo P. Godoy "Digitalization of Manufacturing Processes: Proposal and Experimental Results" 2019 IEEE Explore.
39. H. Y. Ng; P. S. Tan; Y. G. Lim "Methodology for Digitalization - A Conceptual Model" 2018 IEEE Explore.
40. Fátima Pilar 1, Eliana Costa e Silva 2, and Ana Borges "Optimizing Vehicle Repairs Scheduling Using Mixed Integer Linear Programming: A Case Study in the Portuguese Automobile Sector".
41. Robert Barron, "Use chaos engineering to assess application reliability".

© 2023 Global Journals

Global Journals Guidelines Handbook 2023

www.GlobalJournals.org

Memberships

Fellows/Associates of Management and Business Research Council

FMBRC/AMBRC Memberships



Introduction

FMBRC/AMBRC is the most prestigious membership of Global Journals accredited by Open Association of Research Society, U.S.A (OARS). The credentials of Fellow and Associate designations signify that the researcher has gained the knowledge of the fundamental and high-level concepts, and is a subject matter expert, proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice. The credentials are designated only to the researchers, scientists, and professionals that have been selected by a rigorous process by our Editorial Board and Management Board.

Associates of FMBRC/AMBRC are scientists and researchers from around the world are working on projects/researches that have huge potentials. Members support Global Journals' mission to advance technology for humanity and the profession.

FMBRC

Fellow of Management and Business Research Council

FELLOW OF MANAGEMENT AND BUSINESS RESEARCH COUNCIL is the most prestigious membership of Global Journals. It is an award and membership granted to individuals that the Open Association of Research Society judges to have made a 'substantial contribution to the improvement of computer science, technology, and electronics engineering.

The primary objective is to recognize the leaders in research and scientific fields of the current era with a global perspective and to create a channel between them and other researchers for better exposure and knowledge sharing. Members are most eminent scientists, engineers, and technologists from all across the world. Fellows are elected for life through a peer review process on the basis of excellence in the respective domain. There is no limit on the number of new nominations made in any year. Each year, the Open Association of Research Society elect up to 12 new Fellow Members.

Benefit

To the institution

Get letter of appreciation

Global Journals sends a letter of appreciation of author to the Dean or CEO of the University or Company of which author is a part, signed by editor in chief or chief author.



Exclusive Network

Get access to a closed network

A FMBRC member gets access to a closed network of Tier 1 researchers and scientists with direct communication channel through our website. Fellows can reach out to other members or researchers directly. They should also be open to reaching out by other.

Career | Credibility | Exclusive | Reputation



Certificate

Certificate, LoR and Laser-Momento

Fellows receive a printed copy of a certificate signed by our Chief Author that may be used for academic purposes and a personal recommendation letter to the dean of member's university.

Career | Credibility | Exclusive | Reputation



Designation

Get honored title of membership

Fellows can use the honored title of membership. The “FMBRC” is an honored title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., FMBRC or William Walldroff, M.S., FMBRC.

Career | Credibility | Exclusive | Reputation

Recognition on the Platform

Better visibility and citation

All the Fellow members of FMBRC get a badge of "Leading Member of Global Journals" on the Research Community that distinguishes them from others. Additionally, the profile is also partially maintained by our team for better visibility and citation. All fellows get a dedicated page on the website with their biography.

Career | Credibility | Reputation

© Copyright by Global Journals | Guidelines Handbook

Future Work

Get discounts on the future publications

Fellows receive discounts on future publications with Global Journals up to 60%. Through our recommendation programs, members also receive discounts on publications made with OARS affiliated organizations.

Career | Financial



GJ Account

Unlimited forward of Emails

Fellows get secure and fast GJ work emails with unlimited forward of emails that they may use them as their primary email. For example,
john [AT] globaljournals [DOT] org.

Career | Credibility | Reputation



Premium Tools

Access to all the premium tools

To take future researches to the zenith, fellows receive access to all the premium tools that Global Journals have to offer along with the partnership with some of the best marketing leading tools out there.

Financial

Conferences & Events

Organize seminar/conference

Fellows are authorized to organize symposium/seminar/conference on behalf of Global Journal Incorporation (USA). They can also participate in the same organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent. Additionally, they get free research conferences (and others) alerts.

Career | Credibility | Financial

Early Invitations

Early invitations to all the symposiums, seminars, conferences

All fellows receive the early invitations to all the symposiums, seminars, conferences and webinars hosted by Global Journals in their subject.

Exclusive



Publishing Articles & Books

Earn 60% of sales proceeds

Fellows can publish articles (limited) without any fees. Also, they can earn up to 70% of sales proceeds from the sale of reference/review books/literature/publishing of research paper. The FMBRC member can decide its price and we can help in making the right decision.

Exclusive | Financial

Reviewers

Get a remuneration of 15% of author fees

Fellow members are eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get a remuneration of 15% of author fees, taken from the author of a respective paper.

Financial

Access to Editorial Board

Become a member of the Editorial Board

Fellows may join as a member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. Additionally, Fellows get a chance to nominate other members for Editorial Board.

Career | Credibility | Exclusive | Reputation

And Much More

Get access to scientific museums and observatories across the globe

All members get access to 5 selected scientific museums and observatories across the globe. All researches published with Global Journals will be kept under deep archival facilities across regions for future protections and disaster recovery. They get 10 GB free secure cloud access for storing research files.

ASSOCIATE OF MANAGEMENT AND BUSINESS RESEARCH COUNCIL

ASSOCIATE OF MANAGEMENT AND BUSINESS RESEARCH COUNCIL is the membership of Global Journals awarded to individuals that the Open Association of Research Society judges to have made a 'substantial contribution to the improvement of computer science, technology, and electronics engineering.

The primary objective is to recognize the leaders in research and scientific fields of the current era with a global perspective and to create a channel between them and other researchers for better exposure and knowledge sharing. Members are most eminent scientists, engineers, and technologists from all across the world. Associate membership can later be promoted to Fellow Membership. Associates are elected for life through a peer review process on the basis of excellence in the respective domain. There is no limit on the number of new nominations made in any year. Each year, the Open Association of Research Society elect up to 12 new Associate Members.

To the institution

Get letter of appreciation

Global Journals sends a letter of appreciation of author to the Dean or CEO of the University or Company of which author is a part, signed by editor in chief or chief author.



Exclusive Network

Get access to a closed network

A AMBRC member gets access to a closed network of Tier 2 researchers and scientists with direct communication channel through our website. Associates can reach out to other members or researchers directly. They should also be open to reaching out by other.

Career | Credibility | Exclusive | Reputation



Certificate

Certificate, LoR and Laser-Momento

Associates receive a printed copy of a certificate signed by our Chief Author that may be used for academic purposes and a personal recommendation letter to the dean of member's university.

Career | Credibility | Exclusive | Reputation



Designation

Get honored title of membership

Associates can use the honored title of membership. The “AMBRC” is an honored title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., AMBRC or William Walldroff, M.S., AMBRC.

Career | Credibility | Exclusive | Reputation

Recognition on the Platform

Better visibility and citation

All the Associate members of ASFRC get a badge of "Leading Member of Global Journals" on the Research Community that distinguishes them from others. Additionally, the profile is also partially maintained by our team for better visibility and citation. All associates get a dedicated page on the website with their biography.

Career | Credibility | Reputation

© Copyright by Global Journals | Guidelines Handbook

Future Work

Get discounts on the future publications

Associates receive discounts on the future publications with Global Journals up to 60%. Through our recommendation programs, members also receive discounts on publications made with OARS affiliated organizations.

Career | Financial



GJ Account

Unlimited forward of Emails

Associates get secure and fast GJ work emails with 5GB forward of emails that they may use them as their primary email. For example, john [AT] globaljournals [DOT] org..

Career | Credibility | Reputation



Premium Tools

Access to all the premium tools

To take future researches to the zenith, fellows receive access to almost all the premium tools that Global Journals have to offer along with the partnership with some of the best marketing leading tools out there.

Financial

Conferences & Events

Organize seminar/conference

Associates are authorized to organize symposium/seminar/conference on behalf of Global Journal Incorporation (USA). They can also participate in the same organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent. Additionally, they get free research conferences (and others) alerts.

Career | Credibility | Financial

Early Invitations

Early invitations to all the symposiums, seminars, conferences

All associates receive the early invitations to all the symposiums, seminars, conferences and webinars hosted by Global Journals in their subjec.

Exclusive



Publishing Articles & Books

Earn 60% of sales proceeds

Associates can publish articles (limited) without any fees. Also, they can earn up to 30-40% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.

Exclusive | Financial

Reviewers

Get a remuneration of 15% of author fees

Fellow members are eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get a remuneration of 15% of author fees, taken from the author of a respective paper.

Financial

And Much More

Get access to scientific museums and observatories across the globe

All members get access to 2 selected scientific museums and observatories across the globe. All researches published with Global Journals will be kept under deep archival facilities across regions for future protections and disaster recovery. They get 5 GB free secure cloud access for storing research files.

© Copyright by Global Journals | Guidelines Handbook

Associate	Fellow	Research Group	Basic
$4800 **lifetime designation**	$6800 **lifetime designation**	$12500.00 **organizational**	APC **per article**
Certificate, LoR and Momento **2** discounted publishing/year **Gradation** of Research **10** research contacts/day **1 GB** Cloud Storage **GJ** Community Access	**Certificate,** LoR and Momento **Unlimited** discounted publishing/year **Gradation** of Research **Unlimited** research contacts/day **5 GB** Cloud Storage **Online Presense** Assistance **GJ** Community Access	**Certificates,** LoRs and Momentos **Unlimited** free publishing/year **Gradation** of Research **Unlimited** research contacts/day **Unlimited** Cloud Storage **Online Presense** Assistance **GJ** Community Access	**GJ** Community Access

Preferred Author Guidelines

We accept the manuscript submissions in any standard (generic) format.

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

Alternatively, you can download our basic template from https://globaljournals.org/Template.zip

Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at submit@globaljournals.org or get in touch with chiefeditor@globaljournals.org if they wish to send the abstract before submission.

Before and during Submission

Authors must ensure the information provided during the submission of a paper is authentic. Please go through the following checklist before submitting:

1. Authors must go through the complete author guideline and understand and *agree to Global Journals' ethics and code of conduct,* along with author responsibilities.
2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
4. Manuscript to be submitted must include keywords, an abstract, a paper title, co-author(s') names and details (email address, name, phone number, and institution), figures and illustrations in vector format including appropriate captions, tables, including titles and footnotes, a conclusion, results, acknowledgments and references.
5. Authors should submit paper in a ZIP archive if any supplementary files are required along with the paper.
6. Proper permissions must be acquired for the use of any copyrighted material.
7. Manuscript submitted *must not have been submitted or published elsewhere* and all authors must be aware of the submission.

Declaration of Conflicts of Interest

It is required for authors to declare all financial, institutional, and personal relationships with other individuals and organizations that could influence (bias) their research.

Policy on Plagiarism

Plagiarism is not acceptable in Global Journals submissions at all.

Plagiarized content will not be considered for publication. We reserve the right to inform authors' institutions about plagiarism detected either before or after publication. If plagiarism is identified, we will follow COPE guidelines:

Authors are solely responsible for all the plagiarism that is found. The author must not fabricate, falsify or plagiarize existing research data. The following, if copied, will be considered plagiarism:

- Words (language)
- Ideas
- Findings
- Writings
- Diagrams
- Graphs
- Illustrations
- Lectures

- Printed material
- Graphic representations
- Computer programs
- Electronic material
- Any other original work

Authorship Policies

Global Journals follows the definition of authorship set up by the Open Association of Research Society, USA. According to its guidelines, authorship criteria must be based on:

1. Substantial contributions to the conception and acquisition of data, analysis, and interpretation of findings.
2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

Copyright

During submission of the manuscript, the author is confirming an exclusive license agreement with Global Journals which gives Global Journals the authority to reproduce, reuse, and republish authors' research. We also believe in flexible copyright terms where copyright may remain with authors/employers/institutions as well. Contact your editor after acceptance to choose your copyright policy. You may follow this form for copyright transfers.

Appealing Decisions

Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

Declaration of funding sources

Global Journals is in partnership with various universities, laboratories, and other institutions worldwide in the research domain. Authors are requested to disclose their source of funding during every stage of their research, such as making analysis, performing laboratory operations, computing data, and using institutional resources, from writing an article to its submission. This will also help authors to get reimbursements by requesting an open access publication letter from Global Journals and submitting to the respective funding source.

Preparing your Manuscript

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.

Manuscript Style Instruction (Optional)

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11'", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

Structure and Format of Manuscript

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

a) A title which should be relevant to the theme of the paper.
b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
d) An introduction, giving fundamental background objectives.
e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
f) Results which should be presented concisely by well-designed tables and figures.
g) Suitable statistical data should also be given.
h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
j) There should be brief acknowledgments.
k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



Format Structure

It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

All manuscripts submitted to Global Journals should include:

Title

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

Author details

The full postal address of any related author(s) must be specified.

Abstract

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Keywords

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, “What words would a source have to include to be truly valuable in a research paper?” Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

Numerical Methods

Numerical methods used should be transparent and, where appropriate, supported by references.

Abbreviations

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

Formulas and equations

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

Tables, Figures, and Figure Legends

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.

Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

Preparation of Eletronic Figures for Publication

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

Tips for writing a good quality Management Research Paper

Techniques for writing a good quality management and business research paper:

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



© Copyright by Global Journals | Guidelines Handbook

6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.
Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.



© Copyright by Global Journals | Guidelines Handbook

- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



© Copyright by Global Journals | Guidelines Handbook

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

Criterion for Grading a Research Paper (Compilation) by Global Journals

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

INDEX

A

Acclimate · 19, 25
Adhering · 63
Agility · 42, 64
Amalgamated · 4
Asymmetry · 2
Asynchronous · 71, 74

C

Coherent · 23

D

Deregulation · 4
Drudgery · 4

E

Emphasizing · 2, 4, 24, 53
Enactment · 2
Encapsulated · 23
Enthusiasm · 4

F

Fortuitous · 21

I

Immersion · 25, 43
Immigrant · 19
Inadequate · 46
Intricacies · 19, 20, 28

J

Jurisdiction · 13

L

Locomotive · 70, 71, 72, 76

M

Meticulous · 23
Migrants · 24

N

Nuances · 23, 28, 33

P

Paradox. · 23

Penetration · 71
Proximity · 3, 57, 61, 62
Pyramidal · 5

R

Railroad · 76
Regime · 4
Rigorous · 6, 23
Robustness · 13

T

Triumph · 28





Global Journal of Management and Business Research

Visit us on the Web at www.GlobalJournals.org | www.JournalofBusiness.Org
or email us at helpdesk@globaljournals.org



ISSN 9755853

© Global Journals