EFFECT OF CIRCULAR SUPPLY CHAIN PRACTICES ON THE PERFORMANCE OF MANUFACTURING FIRMS IN KENYA

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DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other university.

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DEDICATION

This thesis is dedicated to my beloved Wife Khawla Said, parents and siblings who have shown the spirit of encouragement towards this huge academic task and achievement: am looking forward to honoring your spirit to this course of life-long change.

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ABBREVIATION AND ACRONYMS

CoK	Constitution of Kenya
CSCM	Circular Supply Chain Model
IT	Information Technology
GSCM	Green Supply Chain Management
KEPSA	Kenya Private Alliance
KMA	Kenya Association of Manufacturers
NAMAS	Nationally Appropriate Mitigation Actions
NRBV	Natural Resource Based View
NEEMA	Natural Environmental Management Authority
MCI	Materials Circularity Indicator
OECD	Organization for Economic, Co-operation and Development
PETCO	Polythene Terephthalate
PRO	Producer Responsibility Organization
R&D	Research and Development
SCM	Supply Chain Management
SDG	Sustainable Development Goals
TLB	Triple Bottom Line
UN	United Nations
UNEP	United Nations Environmental Program
WEEE	West from Electrical and Electronic Equipment

DEFINITION OF TERMS

Circular Logistics	Managing the flow of products (push and pull) and information, in an ecologically friendly manner, with the goal of producing an additional value for customers and satisfying their requirements (Masi, Day & Godsell, 2017).
Circular Supply Chain	This is a configuration and coordination of an end-to-end acquisition and disposal of materials in an organization (Akinade & Oyedele, 2019).
Circular Product Design	Involves incorporating Eco design on the whole product lifecycle, encouraging dematerialization, environmental friendliness of products (Brezet & Hemel, 2017)
Circular Procurement	Circular procurement entails buying goods or services in a manner that does nor detriment on the future requirements (Govindan, Khodaverdi &Jafarian, 2018).
Circular manufacturing	Manufacturing of products in a sustainable way, as well as ensuring sustainable manufacturing processes and systems for all products (Sung,Doo-Man & Won-Shik Chu 2020).
Industrial Symbiosis	This is the physical exchange of production resources such as energy, raw materials, and byproducts between industrial actors in the supply chain (Dulebenets & Diploid, 2018).
Logistical Structure	This is a systematic arrangement of partners in the supply chain for forward and backward distributional strategy of products to consumers and empties to the manufacturing firm through a coordinated process (Nie, 2019).
Policy Framework	This is a document that sets out procedures in following an intended and approved methodology of operations (Zeng, Chen, Xiao & Zhou, 2017).

Research Philosophies	This is a scientific realization that the World exists and can be studied as it is (Crosswell & Clark, 2017).
Re-cycle	This is the process of reducing resource decomposition by transformational process with the aim of reusing the components of materials (Zhoga & Pearce, 2018).
Re-manufacture	This is the process of reintroducing used products into a processing unit in accordance with their original specifications and quality standards (Fan, Qiao & Fang, 2017).
Re-use	This is a system of using products directly at the end of its life cycle (Weetman, 2017).
Sustainability Pillars	These are economic, environmental and social manufacturing resources (Stewart & Niero, 2018).

ABSTRACT

Over the decades, manufacturing organizations have relied on a linear extraction approach which has enlightened the threat of resources depletion. This has triggered interest from different sectors such as researchers, industrial experts and policy makers on how to transition into a more efficient and un-destructive production approach for a sustainable and circular economic growth. The inception of circular supply chain is vested on the business structural model of producing products and flow of materials along the supply chain members back and forth with well-integrated communication. The inadequacy of literature on circular supply chain in terms of research and the importance of reducing the demand for virgin raw materials provides the gap for this study. The main objective of this study was to investigate the effect of circular supply chain practices on performance of Kenyan manufacturing firms. Specifically, the study sought to determine whether Circular product Design, Circular Procurement, Circular manufacturing and Circular Logistics affect the performance of manufacturing firms in Kenya. The study also sought to determine the moderating effect of policy framework on relationship between circular supply chain practices and organizational performance. Theories used in this novel study includes Natural Resourced Based view, Resource Dependency, Industry 4.0 Model, Industrial Symbiosis and Institutional theory. Data was collected by the use of a questionnaire in the Likert Type Scale format. The target population included all the manufacturing firms registered by KAM. Stratified random sampling was used to ensure a representative sample from each industry, and the appropriate sample size was calculated using Yamane's formula. The hypothesis was analyzed for acceptance or rejection by determining the P-value. Data was analyzed by use of SPSS (V.20) while presentations was done by tables and graphs. The study found out that circular product design, circular procurement, circular manufacturing and circular logistics has significant effect on the performance of manufacturing firms in Kenya. On the policy framework, the study found out that it has a significant only on circular manufacturing as it remains insignificant on other variables. The study recommended further research to consider specific barriers and challenges faced by manufacturing firms in adopting circular supply chain practices in the Kenyan context. Moreover, further research could be carried out to explore financial implications of implementing circular supply chain practices, impact of circular supply chain practices on different dimensions of sustainability, longitudinal studies can be conducted to assess the long-term effects of circular supply chain practices on organization performance and comparative studies across different countries and regions to provide insights into the contextual variations and best practices in implementing circular supply chain practices.