

Ergonomics Perspective Anthropological Dynamics a Driver for Evolving Business Prospects: A Study

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Abstract: *When work design for the body and guided by culture, productivity becomes human and sustainability becomes natural, this should be core objective of every organization this could be possible if the organization adopt principle of the ergonomics and anthropological dynamics in workplace; which help to improve the efficiency, accuracy and productivity of employees. This paper is review-based paper, used secondary source of information and provide deeper insight on Ergonomics, Anthropological, human centric approaches and sustainability. This study made an attempt to demonstrate the role of **Ergonomics** in innovation, productivity, **Anthropological** factors influence the business growth and steps involved **Human-centered** framework for sustainable business development. This study tries to bring out how a small change in the work design could increase in productivity, job satisfaction, reduce work load stress, technology adoption and employee participation in the organization which leads to long-term sustainability in this competitor world. The study concludes that every organization should collaborate ergonomics and anthropological dynamics not only for building effective strategies but also offers a roadmap for companies aiming for steady growth in a complex, people-focused business world*

Keywords: Ergonomics, Anthropological Dynamics, Workplace innovation, organizational anthropology, human factors, and business prospects.

I. INTRODUCTION

In the era of rapid technology advancement and global competition, businesses are seeking innovative approaches to sustain growth and enhance productivity. There are 2 words which are related to each other 1) Ergonomics: Which means a study on people's efficiency in their working environment. 2) Anthropology: A study on humankind; which are evolving as powerful tool for shaping evolving business prospects. Ergonomics is not only about efficiency of the people, it is a strategic tool for productivity and innovation through adapting technology, processes, and environment to enhance the human capabilities. It helps the organization to reduce fatigue, errors, and health-related costs, improve employee performance, satisfaction, and retention, foster adaptive product designs that meet customer needs; Whereas Anthropological dynamics focus on the study of human interactions, cultural diversity, and evolving societal values. It explains why the people adopt, reject, or modify technologies and practices. It helps the business to understand cross-cultural market demands, anticipate social shifts (changing one's attitudes and behaviours in preparation for a shift in one's role) and align strategies accordingly, diversity in work habits and communication styles. In the contemporary business environment, organizations are giving more importance to human-centered approaches that prioritize efficiency, well-being, and cultural adaptability. Ergonomics and anthropology have evolved as dynamic and complementary disciplines which perform as critical drivers for evolving business prospects. The collaboration of



ergonomics and anthropological perspectives gives businesses to shift from purely technological or profit-oriented models to sustainable, inclusive, and user-centric strategies. By understanding how people interact with tools, technologies, and organizational environment within their cultural and social settings, firms can innovate products, improve workplace design, strengthen employee involvement, and expand into vitality markets more effectively.

Objectives of the study:

- To understand the role of ergonomics in workplace innovation and how anthropological dynamics influence business growth.
- To explore the link between human factors and productivity.
- To propose a human-centered framework for sustainable business development.

Research Methodology

Descriptive Research study: This study describes how the ergonomics and anthropological dynamics helps the organization to achieve its objective through the proper planning and effective work place design with the consideration of human-centered framework, culture, traditions and social norms.

Time period of the study: 2011- 2025.

This study is based on secondary source of information which is use to compile from sources (published reports, official Web-resources, Newspapers, National and International Journals) published in the area of research.

Research problem:

Most of the organizations opinion that the sustainability is only depend sophisticated technology, profit and environment protection but there are very less organization how pay attention to their employees. Workplace often neglect the ergonomics (comfort, clarity, ease to do work) and anthropological dynamics (culture, socio norms, human relationship) as their main motive is to increase the profit. If the organization do not focus on human comfort it may directly or indirectly effects on productivity, efficiency of the employee. The major problem is most of the organization are fail to design human-centered sustainability models that have both ergonomics, anthropological dynamics. without this combination, sustainability efforts remain unproductive and temporary.

Research gap:

Most of the studies focuses on technology adopted by the organization but very limited insight on ergonomics and anthropological dynamics. The absence of human centred, culturally framework limits long term suitability, particularly across diverse and informal work environment (local cultures).

Literature review

Shrawan Kumar (2003) the study explore combination of biomechanics, evolutionary adaptations, and occupational risks of trunk rotation, emphasizing its critical role in bipedal locomotion for stride efficiency and upper limb leverage while restricting it elevates walking energy demands ($p < 0.05$), with rotation capacity at just 25% of extension forces and implicated in 60.4% of industrial back injuries due to flawed modeling; electromyography studies reveal distinct muscle activation patterns between rotation and flexion/extension ($p < 0.01$), introducing "differential fatigue" across spinal levels, though pre-rotation kinematic (the study of motion such as movement, speed, position,) effects and neuromata variations by direction/effort remain underexplored gaps. Building on historical EMG research, the work has garnered 55+ citations influencing ergonomics and rehabilitation texts, yet lacks integrated real-world applications for diverse workforces. Future studies should support advanced AI modelling for dynamic simulations, conduct assessments among Tier 3 cities of Karnataka workers in agriculture, manufacturing to quantify socio-occupational risks aligned with regional development policies, and evaluate training interventions via randomized trials to mitigate fatigue disparities.



Houtbeckers (2017) study explore social entrepreneurship ethnographies (different races and culture) provides a critical analysis on shifting away from storytelling that emphasizing the lived, emotional, and relational dimensions of social entrepreneurship through an ethnographic investigation of a co-working cooperative for social innovation. The study taken from anthropological traditions and reflexive methodologies such as “working the hyphens” (practice of reflexively examine the relationship and tension between self and others) the study shows how the researcher’s moving position between insider and outsider reveals the entanglement of stories marked by engagement–distance and hopefulness–hopelessness, thereby producing situated and context-sensitive knowledge. The findings highlight that spaces designed for social innovation can continuously promoting empowerment, personal growth, distress, and burnout, challenging idealized assumptions about collaborative entrepreneurial environments. This literature demonstrates the importance of collaborations of anthropology and human-centered perspectives, including ergonomic considerations of workspaces and emotional well-being, to understand social enterprises as socially embedded practices rather than purely managerial or economic entities. However, the present research study remains limited in its application to non-Western contexts and in linking ethnographic insights with ergonomic infrastructure and workplace design, particularly in Tier-3 cities. Future studies should adopt ethnographic and mixed-method approaches to examine how cultural dynamics, ergonomic conditions, gendered experiences, and emotional labour structure the sustainability and inclusiveness of social entrepreneurship, especially in emerging and resource-constrained regions such as Tier-3 cities.

Boata, Draghici, and Carutasu (2018) highlights the pivotal role of knowledge management (KM) in the effective implementation of ergonomics within organizations. there is a rapid change in technological and organizational environment, ergonomics is recognized as an interdisciplinary and knowledge-intensive field which needs a continuous transfer of both tacit and explicit knowledge among experts, managers, and employees. The researchers demonstrate that structured KM practices improves the ergonomics implementation by facilitating expert knowledge sharing, improving collaboration, and supporting occupational health and safety objectives. Through the integration of KM with ergonomics, organizations can amplify the working conditions, employee well-being, and overall performance. The researcher took 6 US based companies as an example to explain how the ergonomics services helps in improvising the working efficiency of employees in the organization- whereas study shows the 2 company does not have ergonomics soft wares which may reduce the working efficiency of the employees. further the study identifies emerging trends such as digital knowledge-sharing tools and challenges including resistance to change and difficulty in capturing tacit knowledge (personal experienced based), therefore the study shows that there is need for systematic KM frameworks to ensure sustainable and effective ergonomics practices. The future study tries to focus on empirically examining the integration of KM practices in ergonomics implementation in organizations.

Shuchi Srivastava (2024) Business anthropology has evolved as a multidisciplinary field that applies anthropological theories, methods, and cultural insights to understand business organizations, practices, and market interactions. the researcher emphasizes that increasing globalization, technological advancement, and changing consumer behaviour have heightened the importance of cultural analysis in managerial decision-making. The study highlights how business anthropology bridges culture and commerce by understanding the organizational structures, consumer behaviour, marketing practices, and management strategies, while addressing key concepts, methods, ethical considerations, and emerging areas such as digital anthropology. However, existing literature is largely conceptual and review-oriented, indicating the need for future research to adopt empirical, longitudinal, and comparative approaches across diverse industries and regions, particularly in emerging economies. Future studies should explore the role of business anthropology in digital workplaces, platform-based economies, entrepreneurship, human resource management, and sustainable development to assess its contribution to innovation, inclusivity, and socially responsible business practices. This study would enhance the practical applicability and contextual relevance of business anthropology in contemporary business environment.

Chiapetta Jabbour (2025) study shows that there is an interrelationship between Human Resource Management (HRM), ergonomics, and work psychodynamics in building socially sustainable organizations. The researcher explores



that while these fields are often studied individually, they share a common focus on the human being within organizational systems. HRM provides formal structures for managing people, ergonomics ensures the adaptation of work systems to human capabilities, and work psychodynamics (understanding the hidden emotional and unconscious force that shapes how people behave, feel and interact in the workplace) offers insight into the subjective and emotional experiences of workers. By collaborating these three systematic pillars, the study highlight there is a need for holistic understanding of work that connects the formal organizational practices and informal social realities. This integrated approach contributes to improved employee well-being, organizational performance, and long-term sustainability, while also setting a research agenda for future interdisciplinary studies.

Koycheva (2025) conceptualizes anthropology as an entrepreneurial discipline by highlighting the growing convergence between anthropological practice and entrepreneurship. The study shows that anthropology not only analyses entrepreneurship as a socio-economic phenomenon but also actively contributes to venture creation through its adaptive methodologies, reflexivity, and engagement with uncertainty. By correlating between ethnographic fieldwork and entrepreneurial processes such as experimentation, failure, repetition, and rotating, the article positions anthropologists as innovators capable of generating value in complex and unknown environment. This perspective wider the scope of business anthropology by designing it as a practice-oriented and impact-driven discipline relevant to innovation and organizational transformation. However, the study is broadly conceptual, indicating the need for future research to empirically examine the role of anthropologists in start-up ecosystems, social enterprises, and innovation-driven organizations. Future studies may adopt case-based approaches to analyse how anthropological methods influence venture development, decision-making, and sustainable value creation. Further collaboration of anthropology with entrepreneurship, social entrepreneurship, and inclusive innovation can reinforce its practical relevance in devoting contemporary economic and social challenges.

The following are example of Ergonomics and Anthropological dynamics adopted by the organizations in India:

Companies	Ergonomics	Anthropological	outcome
Toyato (manufacturing- global)	adjustable, workstation, reducing bending work, standardized tool placement	collective learning, worker participation, slop floor culture	high productivity, strong employee engagement, sustainable manufacturing
IKEA	based on human body measurements, comfort and ease of use	design based on facility structure life style, cultural references	strong customer satisfaction, global brand acceptance, and sustainable business growth
Tata Steel	physical and organisational ergonomics	participatory work culture, workers involvement	improved safety, increase in productivity.
HUL	packing that is easy to grip open and store.	gender roles rural household	high workforce wellbeing, better retention, strong rural and urban market reach
Mahindra and Mahindra	siting facility, steering comfort, vibration control	farmers working hours, body posture, climatic	sustainable operations
TCS (IT)	organizational ergonomics	work-life balance cultural diversity	employee engagement, higher retention
Infosys	cognitive and organizational ergonomics	learning culture, inclusivity	employee engagement.
Wipro	cognitive ergonomics	flexible culture, mental	Reduced stress, employee's



		wellbeing	engagement, employee work satisfaction
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These examples demonstrate how the production increases, employee engagement, and sustainable growth with slightly changes in the work design, culture or adoption of ergonomics and anthropological principles in the organization.

The link between human factors and productivity:

Human factors are the major core consideration in the ergonomics- Physical abilities, cognitive capacities, emotional states, skill and social behaviours which helps the organization to accomplish its goals by designing a proper workstation, safety conditions, decision making, technology upskilling or technology interaction. Productivity will increase only when organization gives importance to their employees rather than profit maximization. Employees should be treated as human-being not machines in the work place. when employees feel comfortable, clarity, ease to do, cultural belonging, well organized equipment and psychological safety in workstation their efficiency, accuracy, creativity and commitment will increase automatically. Proper ergonomics practices help to reduce fatigue, occupational injuries, errors and absenteeism while improving comfort, concentration increases the task performing efficiency. At a same time, Anthropological dynamics contribute by addressing cultural values, social norms, behaviours pattern motivation, collaboration with local communities and acceptance of organizational processes. The collaboration of both ergonomics and Anthropology gives insights creates a human- centric work system which not only improves individual performance but also strengthen the team cohesion and organizational effectiveness. Therefore, productivity evolve as a sustainable outcome of harmonising human comfort, socio- cultural alignment, clear understanding about work and surrounding within the organizational ecosystem.

Human-centered framework for sustainable business development:

Sustainable business isn't just about raking in profits it's all about genuinely caring for people and the world around us. A human-centered approach puts people right at the heart of every decision, taking into account their needs, comfort, culture, and overall well-being. Ergonomics plays a big role here, helping design workplaces that are safe and comfy, cutting down on physical and mental strain while boosting productivity. Then there's anthropological dynamics, which dives into understanding cultural values, social behaviours, and what communities really expect. When you blend ergonomic design with this cultural insight, you end up with systems that truly support employees, customers, and local communities. This human-focused approach leads to long-term sustainability by balancing economic growth with social responsibility and environmental care.

There are certain points take it into consideration while developing the human centre approaches for a sustainable business:

To identify the human needs, comfort, and capabilities in work place using ergonomic and cultural analysis.
Understand stakeholder roles (based on type of work), social behaviour, and local cultural values.
Design work systems and processes (easy access to the equipment's, tools, that reduce physical and mental strain.
collaboration of cultural practices and social norms into business strategies.
positioning the human-centred practices with economic, social, and environmental goals.
Motivates the employees and communities to take active participation in decision-making.
scales well-being, productivity, and sustainability outcomes.
Feedback and continuous learning process.

II. CONCLUSION

The study concludes that the integration of ergonomics and anthropological dynamics act as the powerful tool for creating a sustainable and human centred organizational development. Ergonomics practices helps to provide a physical



comfort, clarity, understanding of work style, safety and efficiency. whereas Anthropological dynamics offer a deeper insight on the culture, socio norms, behaviour and human relationship in the working environment. when these two principle are adopted in the organization beyond the mechanical productivity and begin to design system which are truly supports the human needs. Such an approaches not only improve the employee wellbeing and performance but also lead to the long term sustainability of the organization. Therefore, the combination of ergonomic design and anthropological insights not only support to build effective strategies but also give a new pathway for organizations seeking resilient growth in an increasingly complex and human driven business environment.

REFERENCES

- [1]. Charbel José Chiappetta Jabbour, Humanomics (2011) HRM, ergonomics and work psychodynamics: a model and a research agenda” 27 (1), 2011):
- [2]. HRM, ergonomics and work psychodynamics.
- [3]. Eeva Houtbeckers (2017) Researcher subjectivity in social entrepreneurship ethnographies: The entanglement of stories in a co-working cooperative for social innovation – Social Enterprise Journal (Emerald Insight)
- [4]. <https://doi.org/10.1108/SEJ-07-2016-0025>
- [5]. Lora Koycheva (2025) Anthropology: An Entrepreneurial Discipline” — Journal of Business Anthropology (JBA)
- [6]. <https://rauli.cbs.dk/index.php/jba/article/view/7535> Rauli.
- [7]. Shrawan Kumar (2003) Ergonomics Society – The Society Lectures 2003 published in Ergonomics (2004, Vol. 47, Issue 4, pp. 370-415)
- [8]. <https://www.tandfonline.com/doi/abs/10.1080/0014013032000157940> (DOI: 10.1080/0014013032000157940.
- [9]. Shuchi Srivastava, 2024, Business anthropology: An overview,
- [10]. https://www.researchgate.net/publication/381855254_Business_anthropology_An_overview
- [11]. Maria – Elena Boatca, Anca Draghici, Nicoleta Carutasu,(2018) A Knowledge Management Approach for Ergonomics Implementation within Organizations (2018, Procedia - Social and Behavioral Sciences) — available on Science Direct:
- [12]. <https://www.sciencedirect.com/science/article/pii/S1877042818300247>

