

Harnessing work ethic to drive sustainability: Considering myrmecological characteristics

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ABSTRACT:- This paper considered myrmecological characteristics in harnessing employee work ethic to drive sustainability. The desire for sustainability in the contemporary global space cannot be overemphasised. It then becomes imperative that efforts towards achieving this desire be vigorously pursued especially through workplaces in the production industry. However, employees' work ethic in productive ventures has not struck optimal levels regarding key metrics of work outputs. Thus, this paper employed content analysis and explanatory analogies to elicit insights on beneficial characteristics from myrmecological phenomena. Without going into the nitty-gritty of sociobiology or unearthing the details of myrmecology, an aspect of entomology that focuses on the scientific study of ants, useful intentional acculturation strategies as courses of action were suggested to direct workplace behaviours towards strong work ethic replication and sustenance. It was concluded that sociological behavioural benefits of myrmecology can improve human work ethic. This paper reduces the gap in the availability of literature on work ethic and sustainability. It contributes to the study of workplace behaviour as well as work culture with the aim of educating behaviours that will improve productive work outputs and attain the desired sustainability levels.

KEYWORDS: behaviour, culture, development, sustainability, work ethic

I. INTRODUCTION

The contemporary workspace is involved in several activities that require tasks in the production of goods and services for domestic and international markets. In the production industry specifically, the extraction of the raw materials, the production processes, the output quality, byproducts as well as waste products are to be considered carefully if the expected goals of sustainability are to be achieved and maintained. Sustainability, as a concept has gained prominence in contemporary discourse in business, science, literature, agriculture, environmental management, cybernetics, urban development and artificial intelligence, to mention a few (Agu et al, 2024; Janker & Mann, 2020; Rathee & Milfeld, 2024; Ruggerio, 2021; Van Wynsberghe, 2021). Despite the rigour and vigour put this discourse, the concept is still evolving (Diwan, & Amarayil Sreeraman, 2024; Odudele, 2024). Silvestri et al (2024) have seen sustainability as an avenue which leads to the promotion of efficiency in resource use, reduction in activities that burden the environment and the furtherance of systems that are responsible to their social environment. The authors identified innovation in ecological activities and in handling issues of the supply chain by stakeholders as groundbreaking activities that foster sustainability. Venn et al (2022) opined that sustainability is a set of identifiable competencies which are used as inputs in educational programmes that enhance the development of knowledge, attitudes and skills that prompt new ways of planning, thinking and acting in directions that are empathetic toward and responsible for issues of health of people and the planet. It has been advanced that to achieve sustainability, firms must include a variety of tactics and programs in their business practices to reduce adverse environmental effects, promote social justice, and guarantee financial viability (Agu et al, 2024). Sustainability, the creation of social, environmental and economic values that endure over time is highly desired in the contemporary global space. This is because many firms are desirous that their work outputs create wealth for their employees, the organization, its stakeholders as well as society. To achieve these, policies and strategic statements are made to ensure best practices are followed. All these actions will amount to nothing if the employees do not possess and display expected characteristics that fall in line with the trajectory that culminates in the social, environmental and economic well-being of the people and society.

It is important to note that negative work behaviour is neither beneficial to the employee nor the organization, even the society in which the organization operates suffers. This work highlights workable solutions to achieving work ethic in employees that will be self-driven and in tandem with best practices and yield the desired results. It is common to find new entrants into organizations showing high levels of zeal and readiness to work. This may not be unconnected with the view that jobs are hard to find in a vast population with a high unemployment rate. For fresh graduates, this enthusiasm may even be higher as there is an intense desire to showcase ideas learnt from their institutions. Organizational orientations and briefings also add

impetus to this drive intending to ensure that work output metrics such as productivity and service delivery are at tiptop level and sustainable. However, no sooner than the assumption of duties, certain dysfunctional work behaviour becomes glaring. This may be based on the work behaviour being exhibited by older workers they meet in the organization or behaviours inimical to organizational progress they possess which faulty organizational systems allow them to exhibit unhindered and without adverse consequences.

The production capacity and sustainability of firms have a lot to do with the work ethic exhibited by the employees with the system. An employee's work ethic determines how well the organization can achieve its aim and make positive and significant contributions to the economic development of the nation and the global community.

The economic situation in nations is a lot better if the productive outputs of workers in all productive organizations, be they privately owned or publicly owned are in line with progressive work output metrics and are sustainable. Employees with strong work ethics are assets to organizations as they conduct themselves with professionalism and achieve results (Ichsan, 2022). Abun, et al (2022) saw an employee's work ethic as akin to their moral attitude toward their work, the intrinsic drive and attitude toward the task itself. An employee with a strong work ethic presents a considerably higher attitude for work performance and low counterproductive behaviour as against those with weak work ethic where the reverse exhibited behaviour is the case. A good work ethic, which may include elements such as integrity, responsibility, equality, self-discipline and self-monitoring, usually reflects in the physical, mental and emotional efforts employees put into their work (Ede et al, 2023; Bataineh, 2020). The desire to achieve set goals propels an attitude that guides the way work is done by employees. This also depends on the underlying personality characteristics of individuals which drive their motives, decisions and behaviours.

However, The worrisome levels of decadence in the value employees place on their work as well as other attitudinal displays with deleterious effects have prompted this work to consider myrmecology, an aspect of entomology that focuses on the scientific study of ants, to elicit insights on beneficial characteristics from myrmecological phenomena where strong work ethic reviews are well documented (Ellison & Gotelli, 2021; Lopes & Lima, 2022; Schreiber, 2022).

This paper fills a gap in the literature on work ethic and sustainability and advances the study of workplace behaviour and culture to evoke behaviours that increase productive work outputs and achieve the desired sustainability levels.

II. MYRMECOLOGICAL CHARACTERISTICS

It is not the intention of this work to delve into the specifics of sociobiology or uncover the details of myrmecology but aims to guide workplace behaviours towards strong work ethic replication and sustenance by understanding myrmecological characteristics. Myrmecology is an aspect of entomology which deals with the study of ants scientifically. Ants are habitual workers and engage in constant behaviours that aid in the gathering of food building of nests, protecting their colonies as well as other communally beneficial activities while maintaining a strong focus on the collective good with discipline and perseverance. Ants work without complaining and seeking shortcuts but with determination, as a unified whole, accomplish tasks and contribute to the collective progress and survival of their colony (Gordon, 2021; Horna-Lowell, et al, 2021)). They are eusocial and can migrate and colonize landmasses which they have done in several ecosystems. Their ability to modify habitats, obtain resources and protect themselves are key attributes that have led to their success (Glaser & Grüter, 2023). Ants, bees, and wasps fall under the taxonomic category of the Hymenoptera order which is considered a grouping that is most eusocial. Eusociality, a term proposed by Batra (1966), depicts the extent of cooperativeness among members of a colony. The proponent closely observed nesting behaviours of Halictid bees in their colony and spotted cooperative behaviour a prevailing behaviour that aids the survival of colony members. Each member serves as a volunteer, seeking responsibility and assisting in one duty or the other for the furtherance of the collective progress of the colony as a whole which shows very high levels of sociality (Lecocq de Pletincx et al, 2021). Characteristic behaviours such as the level of cooperative care for others, division of labour and specialization are common phenomena in the Hymenoptera and depict eusociality. Ants specialize in various tasks geared towards the care, protection and defence of members of their taxonomic family. For instance, Myrmecocystus, a species of ants, has a unique morphology for colony defence and characteristic self-sacrificing behaviour (Beydizada et al, 2024). While anticipating scarcity, they fill their stomachs with food which remains in liquid form until they become stock-still and suspend themselves in strategic positions within their habitat, serving as food banks for the other members of the entomological domicile (Khalife, & Peeters, 2020; Maak, 2021). The work ethic of the harvester ants, also known as agricultural ants is such that they work cooperatively to gather seeds which are stored in granaries, commonly called, the communal chamber. The behaviour of this specie can be useful in students' research

training(Schreiber,2022). The work ethic of ants is self-directed, goal-oriented, and highly purposeful despite daunting obstacles and challenges. Learning how ants live and succeed helps humans avoid fierce competition, understand market changes, build trust in the organizational system, make better decisions, learn from experience, get insight on how to plan, develop strategies, and improve their impact on the surrounding community (Czaczkas, 2022; Hashemi et al,2022). The instincts and endowments may allow the members of the Formicidae and Hymenoptera, the specific taxonomic categories to which all ants belong, to exhibit behavioural patterns such as self-organization, task allocation, gesture reciprocity, communication and teamwork(Ellison & Gotelli,2021.; Lopes & Lima, 2022;). The efficiency and precision of the functionality of their behaviours have been attributed to the significant levels of success in the ecosystem (Reznikova, 2021; Glaser & Grüter, 2023; Hollis & Nowbahari, 2022).

Work ethic is an individual's set of values embedded in the person's belief, character as well as personality features that form an employee's approach to work and work outputs. Employees with strong work ethics are diligent and have a high intrinsic drive and passion for task accomplishment and delivering high-quality outputs(Ariffin & Putra, 2020; Dusmezkalender, et al, 2021). They are meticulous, conscientious, time-conscious, learn quickly and have an interpersonal rapport with others at work. The virtues of hard work, mutual respect and support are evident in their work behaviour making them available, reliable and dependable professionals in their areas of specialization. Characteristic features such as punctuality, focus, dedication, self-awareness and professionalism can be learnt. There are several measures of work ethic and has been seen as a multidimensional variable. While some of these variables are inter-twined and overlapping, a synthesis of meanings and attributes include time consciousness, productive-centric approach to work, self-reliance, ethical consciousness, problem-solving ability, goal orientation, concern for society, learning from past experiences, decision-making and so on (Ahad et al, 2021; Ichsan et al, 2022). Working smart in these contemporary times does not preclude the features of the work ethic of hard work. Employees in human organisations have a lot to learn from this display of myrmecological-themed strong work ethic qualities which are essential for organizationally important attitudinal variables such as job involvement, dedication to duty and organisation, and job satisfaction.

III. HARNESSING WORK ETHIC TO DRIVE SUSTAINABILITY

The need for sustainability is hinged on the expectation of addressing social, environmental and economic issues in the contemporary global space. The United Nations via the Sustainable Development Goals (SDGs) has set a schedule to offer succour to the pressing issues of people, planet and prosperity by 2030. The idea of sustainability is that the global ecosystem should enjoy perpetual enduring development from generation to generation. Since this is noble and lofty, it behoves all progressive thinkers to work assiduously to contribute their quota to ensure the attainment and perpetuity of such goals. Through myrmecological-themed work ethic, the Strategic Development Goals (SDG) target of 2030 could be achieved and exceeded.

This work is hinged on the instinct theory (McDougall,1919) which surmises that behaviours are driven by instincts which are usually goal-directed and purposive. These natural tendencies are biologically inherent and a key propeller of behaviours towards survival. This paper believes that this theory is highly relevant in the intrinsic motivation of employees to display a positive work ethic that is sustainable for the survival of their firms and immediate environment as well as global prosperity. One of the shortcomings of the instinct theory is that behaviours are thought to emanate only from within the individual and exclude the chances of learning from observation, socialization or experiences. To have a triangulation of opinions, this work also hinges on the social learning theory (Bandura, 1976). This theory allows for learning to occur from what people observe and imitate. The social learning theory stipulates that people model behaviours they learn from others. The observation of outcomes of other people's behaviour will determine the extent to which they imitate. Behavioural outcomes that lead to punishment are likely not to be modelled. Humans are learning beings and are capable of cultivating new behaviours through conscientious efforts done systematically. To harness employees' work ethic in the desirable direction, it is thus imperative to see to it that both instincts and social learning blend for the optimal results to be achieved.

The work ethic of employees underscores their disposition to the actions they take at work which may make or mar the fortunes of the organizations they work for. For organizations to succeed, the work ethic of the employees must anchor on work value elements such as commitment, dedication, achievement, goal attainment and accountability that culminate in productivity and efficiency. Harahap et al, 2023 attributed the development of an employee's work ethic to the extent of religious education the employee possesses. The authors believe that religious education specifies moral values that help to develop a good work ethic and aid in the sustainability of business ventures. The aggregate work output of productive sectors is highly crucial in the determination of the value of a nation's economic development (Ugwuzor,2021). Despite the efforts put in place by managers to see to it that the highest level of output is obtained in work settings a lot is still expected. This

has a lot to do with employee work behaviour. This brings the all-important issue of work ethic to the fore which this paper addresses. Work ethic is an employee's level of seriousness, perseverance, creativity and discipline as depicted in the person's attitude, principles, values and behaviour towards the way work is done (Harahan et al, 2023). The authors believe that values such as honesty, hard work, responsibility and discipline can be received from religious instructions and shape people's work ethic. Zia et al (2024) have suggested that an employee's work ethic influences innovative work behaviour, quality of life and organizational citizenship behaviour.

To harness employees' work ethic, there has to be a deliberate effort by the firm to incorporate into their organization's cultural norms that emphasize ways to think and act while doing business by drawing from principles of integrity, responsibility, honesty, justice, hard work and so on. Apart from a possible boost in employee morale and output, customers and business associates see the prioritization of the interest in society and the environment which builds a positive image for the firm. The harnessing of employees' work ethic in business organizations should integrate sustainability concerns with their production activities. This is because work ethic has social, environmental and economic implications which are the elements of sustainability.

The Social implication component is displayed in the relations with colleagues and customers. Social ties, communication, organizational citizenship behaviour and interpersonal relations within the organization lead to organizational success. In practical terms, the social implications of employee work ethic enhance a unique sense of teamwork, social responsibility, and organizational citizenship as well as other prosocial behaviours aimed at communal social welfare which fosters enthusiasm.

The environmental implications of work ethic show when employees do what is right for the ecological environment. However, in the course of industrialization or the production of valuable outputs for commerce and consumption, some form of environmental degradation may inadvertently occur. Firms where the display of strong work ethic prevails are likely to be socially responsive and responsible to their environment. This is because employees with strong work ethic will tend to look beyond the benefits of keeping their jobs in the short run, while destroying the environment, and seek ways to protect their environments and keep their jobs as a sustainable strategy in the long run. In the course of the underground activities of ants, they burrow the soil, build nests and perform other construction activities. Despite this, the work ethic of the ants enables them to be environmentally friendly and contributes to soil enhancement by making it porous for water and air to get to plants and other ecological lives beneath the surface (Moreau, 2020; Viles et al, 2021). The position of sustainability as discussed in this paper is for the enduring betterment of the people, the physical environment and economic well-being. Assoratgoon and Kantabutra (2023) opine that there is the underlying assumptions that for cleaner production in firms there is the need to be abreast with certain cultural dynamics within the organization that stimulate the attitudes, values and task norms of employees to strive towards the use of production processes and practices that are devoid of environmental pollutants. They believe that 'sustainable organizational culture and sustainability organizational transformation models' are the stimulants and that right and wrong as seen in the eyes of virtue and morality should be the guiding metrics of firms' duties to society.

The economic implications of strong employee work ethic show in the level of success of the organization (Azmat et al, 2023). When work ethic defines output quality, it speaks well for a firm's reputation in terms of reliability, and social responsibility with its attendant effect on patronage and opportunities for long-term success. Also, it assumed that the better the performance in terms of the firms' stance on environmental eco-friendliness, the more a firm learns to perform better. This is a form of capacity building with a continuous improvement mantra on skills and knowledge acquisition. Specialization in a particular aspect of the production ecosystem creates value for the organization which adds to its intellectual capital, intrinsic satisfaction, confidence, customer loyalty, patronage, and higher yields/return on investment are additional benefits derivable from a strong work ethic. The firms that are socially and environmentally successful will lead to economic empowerment to the individual, firm, nation as well as global economic prosperity index.

Threats to achieving a strong work ethic

Having a strong work ethic is a source of personal satisfaction for many and those who feel less endowed with such levels of work-ethical strength could be trained to acquire it. Suffice it to say that, people are central in fostering the success of sustainability and the ethic people adopt in work settings is crucial in the achievement of success. However, whether work ethic is inherent or learnt, certain factors could inhibit the demonstration of a strong work ethic. They include the following.

The extrinsic rewards- It is sometimes observable that the prevailing ethic being exhibited at work is negative and the key metrics of work outputs in terms of service delivery, volume and desire to get things done with

cohesion and minimum supervision have not been optimal. The perception of the extrinsic reward may be culpable. Even though work ethic may be seen as largely intrinsically induced, some persons become discouraged if they observe that the value of the extrinsic rewards is diminutive.

Distorted justice system- The prevailing system for the distribution of organizational favours and punishment may be distorted to the extent that indolent and unproductive persons who exhibit no semblance to strong work ethic attributes get organizational favours leaving persons with strong work ethic attributes feeling “punished”. This is akin to the Blackstone formulation (Badenhorst,2023) where the guilty sometimes go scot-free at the detriment and expense of the innocent. A person with a strong work ethic stays positive in the face of challenges and builds resilience against tough times with an inner resolve to get things right and on time. However, a person may at some point feel discouraged by the structures and systems in the organization that encourage the devaluation of hard work and do not favour meritocracy. Needless to say, mediocrity jeopardizes quality and thrives where a weak work ethic culture exists which leads to the path of decline in the chances for sustainability.

Generational expectations: The work ethic of different generations at work is changing, Apart from the chronological age of a person, the time or era when the person started the work is a determining factor in how work is done. For instance, a person who started work decades apart may have different perspectives, especially in firms with eroding corporate culture. To harness work ethic, patterns must be created through actions which are repeated and transferable from person to person and transcend through generations.

Societal Influences: Some societies accept that a top manager should not work or a high-ranking person should not be expected to partake or participate in certain duties. Society may describe certain work ethic as demeaning. There are also situations where it is observed that persons benefit without hard work and receive royalties for doing nothing. This discouraging situation can make people become lackadaisical and feel that hard work does not pay. A society that supports volunteering, and altruism is likely to groom persons with strong work ethic.

Internal attribution: There are other factors attributable to reasons for the dismal achievement of a strong work ethic. They include laziness, the nature of locus of control, blatant refusal of work, entitlement mentality, complacency, lack of zeal, and no sense of duty, to mention a few. Work environmental culture which allows laziness to go scot-free and will engender a weak work ethic.

IV. COURSES OF ACTION

From the foregoing, it is expedient to harness employees' work ethic in directions that encapsulate the eusocial, learning and memory capabilities as reflected in work outcomes of myrmecological family. Despite the threats to achieving a strong work ethic, there is a compelling desire to improve values and alter behaviours in the direction towards strong ethic replication and sustenance. The succeeding section highlights useful intentional acculturation strategies as courses of action that could be applied.

Stimulating survival instincts: This is a corporate cultural approach to obtaining behaviours in employees by appealing to their sense of adaptation and survival. Avenues on how to stimulate employees' physical and mental readiness as well as dedication and commitment in the constant push towards excellence are emphasized. There is a constant reminder of how the success of each person's work output is crucial to the survival of the whole. This could be done during briefings, meetings, regular posters and pep talks. The success paradigms of myrmecological elements are often adduced. The more this is done, the more likely the human body and mind learn to invest time and energy in making exceptional efforts at getting things done right.

Inoculation -A strong work ethic could be self-driven and the personality of the individual employee could determine if the work ethic will be strong or weak. Some persons naturally possess a strong work ethic and will need nurturing while some others do not possess a strong work ethic and are sometimes averse to it. However, a good time to work on an employee's work ethic level is at the time of entry into the organization. During the probation period psychological programmes that give mental orientations of expected work behaviours are given to the extent that the new employee holds dogmatically to those organizational positions as guiding principles for work. Inoculation is the deliberate indoctrination of a new employee in the first few days of employment to acquire strong work ethic orientations that will be held sacrosanct while at work.

Attribute Contagion- This is a phenomenon where attributes of people are altered by the acquisition of the attributes of others around them. Through attribute contagion mechanisms such as social interactions and deliberate mentoring people may learn to acquire a strong work ethic by mimicking attributes of people in their work team within the work environment. The adaptation of attributes contagion to elicit desired results on

behaviour could be very effectively done by working with people or work environments with persons who possess exceptional attributes of strong work ethic.

Specialization boot camp- Firms can organize special boot camps to instil strong work ethic in the staff. The boot camp atmosphere should be highly purpose-driven and goal-orientated to teach necessary specialized work values that workers should have. It can also spell out the relationship of each aspect of work and how they all work together for the smooth functioning of the organization. Each person takes home the importance of each work and how each is indispensable. This exercise has implications for communication, team building, interpersonal relationships and inter-group functioning.

Scouting: This is the deliberate search for persons with strong work ethic . This could be achieved by going to educational institutions to get interns who have such uncommon traits, attributes or unique characteristics that will culminate in having a strong work ethic. Also, by collaborating with educational institutions to sponsor short programmes or projects for students firms can identify and select young persons with strong work ethic which nurtured.

Institutional reciprocity – This is a conscious use of corporate cultural and structural mechanisms to ensure that each person in the organization gets a reciprocal reward for any work behaviour they exhibit. Part of the threats to attaining the desired work ethic are complaints of inequity in extrinsic rewards and a distorted justice system, to mention a few. Firms should intentionally put mechanisms in place to forestall the occurrence of any corporate cultural or structural inadequacies that will lead to weak or diminishing work ethic.

V. CONCLUSION

The biological makeup and the environmental circumstances of humans and ants vary widely. However, the sociological and behavioural benefits of myrmecology can improve human work ethic in workplaces. Since humans will always be humans, their unique biological and psychological dispositions allows them recognize certain threatening factors to the achievement of strong work ethic. Nevertheless, by taking suggested courses of action, firms can achieve the desired work ethic from employees which makes them demonstrate exceptionally excellent levels of eusociality, functionality and capacity utilization, producing super levels of output and impeccable service delivery for their ultimate success and survival. Apart from the intrinsic satisfaction employees get for a good job well done, the organizations and society will be great gainers.

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