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Corporate Culture Analytics and Implications for Development of Fishing Businesses in Nyaminyami Rural District, Zimbabwe

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Abstract

The main objective of the study was to assess corporate culture analytics and implications for development of fishing business in Nyaminyami Rural District, Zimbabwe. The research adopted mixed method approach rooted in the pragmatism paradigm. Probability sampling (simple random) was used to determine respondents for the quantitative data while non-probability sampling (purposive) was used to determine the participants to provide the qualitative data. The population of the study were all twenty-seven (27) heads of departments from the fishing companies in the district. However, fifteen (15) respondents were selected for quantitative data while twelve (12) participants were selected for qualitative data. Both structured questionnaires and interview guide were used to solicit data where descriptive statistics were used to analyse culture analytics tools used by the fishing business and thematic analysis was used for perceptions of participants on the implications for development of culture analytics on fishing business in the district. Study findings showed that culture analytics analyse the complete spectrum and align it with organisational objectives. This enables human resource teams to pinpoint the precise metric to pursue, develop programs that address any gaps identified and determine how the company can benefit holistically. Moreover, the findings revealed that culture analytics can provide insights into the soft skills of employees, a dimension frequently overlooked in conventional evaluations. Once these gaps are identified, they can be addressed through training and employee engagement initiatives. Based on the study results, it can be inferred that culture analytics provides human resource managers in the fishing industries with comprehensive data on employees' cultural alignment. This facilitates decision-making processes, spanning from internal recruitment to off boarding, and relies on a thorough understanding of the current cultural landscape within the organisation. Additional research is warranted to explore the intricacies and evolving nature of culture analytics solutions further, with the aim of improving the performance of the fishing industry in Zimbabwe.

Key Words: Culture Analytics, Development, Fishing Business, Implications Sustainability Zimbabwe.

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Introduction

As global attention increasingly turns towards sustainable business practices, the fisheries sector faces mounting pressure to adapt and innovate (Cooke & Arlington, 2024). The fishing industry is integral to the global economy, providing livelihoods for millions of people and acting as a vital source of food security. Ensuring its long-term viability is therefore critical (Ziegler & Hilborn, 2023). Nevertheless, unsustainable fishing practices, environmental degradation, and social inequities continue to threaten the resilience of fisheries and marine ecosystems (Pauly & Zeller, 2016; Hilborn, Banobi, Hall, Pucylowski, & Walsworth, 2018; Hilborn & Hilborn, 2019).

Culture analytics has emerged as a promising instrument in human resource technology, offering insights into workplace culture and supporting its development (BasuMallick, 2021). Its sustainability is increasingly relevant for the growth of the fishing sector in Nyaminyami Rural District, Zimbabwe. Local fishers largely rely on traditional methods such as netting and trapping, while commercial operators deploy motorised boats, traps, and gill nets to harvest fish on a larger scale (Worm, Orofino, & Bradley, 2024). In this context, the application of culture analytics warrants careful exploration.

The fishing industry in Zimbabwe, particularly in the Chalala, Mola A, Mola B, and Gatche-Gatche areas of Nyaminyami Rural District, plays a significant role in the national economy, necessitating analysis of the applicability of culture analytics to this sector. In the broader Kariba District, fishing constitutes a crucial source of income and nutrition for local communities, making sustainability imperative. Culture analytics can provide valuable insights into organisational operations, values, and behavioural norms, as well as the socio-environmental impacts of fishing practices (BasuMallick, 2021). By drawing on culture analytics, businesses may identify inefficiencies and implement reforms that advance sustainable development.

Fisheries within the Zambezi River system have significantly declined, with catch rates decreasing by approximately 60%, the depletion of larger and more commercially valuable fish species, and a growing reliance on environmentally destructive active fishing gears. The long-established conservation regime governing Lake Kariba has increasingly become incapacitated and marginalised (Zambezi River Authority, 2023). Concurrently, unregulated economic activities have proliferated across this frontier zone, capitalising on both the productivity of the lake and the dynamics of the state border.

Despite these developments, strategies for integrating the corporate culture of fishing enterprises in Nyaminyami Rural District have not been systematically addressed. Consequently, sustainability considerations remain underexplored within the application of corporate culture analytics to the fishing industry in Kariba District. This gap in scholarship and practice undermines the long-term viability of the sector, contributing to environmental degradation, weakened community livelihoods, and economic instability. In response, the present study sought to examine the corporate culture analytics of fishing businesses in Nyaminyami District, Kariba, with the aim of identifying pathways to embed sustainability into organisational culture and practice.

Literature Review

Studies on culture analytics emphasise the use of technology to capture cultural data, robust analytical systems to interpret data, and intelligent algorithms that translate them into actionable insights for managers (BasuMallick, 2021). While much of the extant scholarship examines other sectors, there is a pressing need to investigate its potential in the fishing industry, given its distinctive ecological and socio-economic dynamics. In Nyaminyami District, one implication of adopting corporate culture analytics is the capacity to institutionalise sustainable practices that reduce environmental harm. This includes promoting responsible fishing techniques, minimising waste and pollution, and conserving natural resources (Hilborn et al., 2019). Such approaches not only safeguard fish populations and ecosystems but also support the livelihoods of local communities dependent on fishing (Pauly & Zeller, 2016).

Culture analytics is increasingly being recognised within human resource technology as a pivotal tool for shaping organisational culture (Machena, Kolding, & Sanyanga, 2017). It involves the integration of technological tools for data collection, systematic analysis, and the deployment of algorithms to generate insights (Gutterman, 2020). Although much of this technology remains under development, its implications for Zimbabwe's fisheries, given their contributions to GDP and employment, are profound.

Beyond environmental concerns, corporate culture analytics advance social sustainability by reinforcing fair labour practices, supporting community development, and promoting workforce diversity and inclusion (BasuMallick, 2021). Cultivating a positive corporate culture, studies show, enhances organisational reputation, employee retention, and broader community well-being. Moreover, culture analytics may guide decision-making on innovation

and technology adoption (Gullap, 2020). By interrogating data on practices, employee perceptions, and market shifts, firms can identify avenues for growth, whether through investment in new fishing technologies, capacity-building programmes, or partnerships with research institutions to drive sustainable practices (Cooke & Arlington, 2024; BasuMallick, 2021; Mabaya & Mafongoya, 2017).

Overall, the sustainability of corporate culture analytics is vital for advancing the fisheries of Nyaminyami Rural District. Through data-driven insights, businesses can make informed decisions that balance economic imperatives with ecological stewardship and social responsibility (BasuMallick, 2021).

Locating the Nyaminyami Rural District

Nyaminyami Rural District, within the broader Kariba District, is situated along Lake Kariba in Mashonaland West Province, northern Zimbabwe. The district, located in the Zambezi Valley bordering Zambia to the north and Mozambique to the east, comprises three principal communal lands: Kanyati and Gatche-Gatche, encompassing twelve wards in total (Mabaya & Mafongoya, 2017) (see Figure 1).

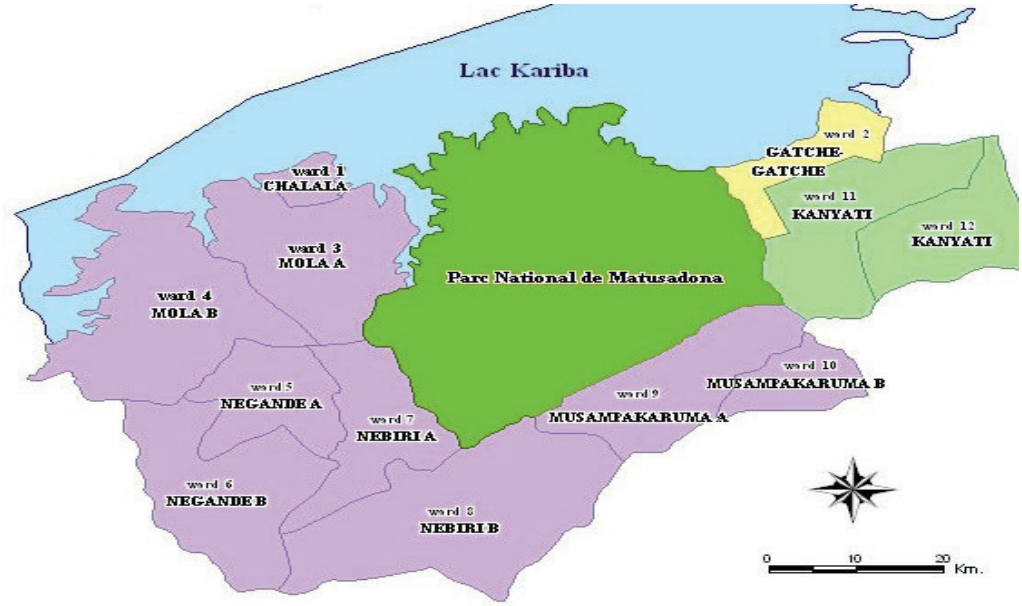

Figure 1: Nyaminyami Rural District Map

Source: Survey (2024)

Since the construction of the Kariba Dam wall, creating a lake in the process, in 1958 along the Zambezi River, shared between Zambia and Zimbabwe, substantial ecological and socio-economic changes have been observed in both fisheries and fish communities. Although Lake Kariba is among the most extensively studied freshwater systems in Africa (Karenge & Kolding, 2015), concerns over overfishing and indications of fully exploited resources have frequently been raised (Marshall, 2011; Marshall, Junor, & Langerman, 2015; Kenmuir, n.d.). Conversely, other studies have contested these views (NORAD, 2015; Ramberg et al., 2017; Marshall, 2018; Machena, Kolding, & Sanyanga, 2017). Most attempts to calculate sustainable yields (Marshall, Junor, & Langerman, 2018; Marshall, 2015) have drawn on classical stock assessment models based on catch and effort variables, relying on assumptions of ecological stability and constant regenerative capacity.

Against this backdrop, corporate culture analytics emerges as a valuable tool for understanding, measuring, and managing organisational culture in contemporary workplaces (BasuMallick, 2021). Rooted in organisational behaviour and human resource management, it leverages data-driven approaches to generate insights into employee attitudes, behaviours, and interactions (Armstrong & Taylor, 2014). By analysing diverse data sources and applying advanced analytical techniques, organisations can detect hidden patterns, diagnose cultural issues, and design targeted interventions to enhance organisational culture (BasuMallick, 2021). The roots of culture analytics can be traced to early management studies, notably the Hawthorne experiments of the 1920s, which underscored the role of social factors and employee morale in productivity (Roethlisberger & Dickson, 1939). Subsequent advances in technology, data science, and organisational psychology have enabled increasingly sophisticated approaches to studying corporate culture as a discrete field of inquiry (BasuMallick, 2021).

Corporate culture analytics comprises a suite of methods and tools for investigating organisational culture. These include surveys, sentiment analysis, social network analysis, and text mining, alongside analytical techniques such as statistical modelling, machine learning, and natural language processing (BasuMallick, 2021; Burkus, 2014). Integrating such data sources can provide a holistic picture of organisational culture and highlight areas requiring improvement (BasuMallick, 2021). Practical applications include identifying high-performing teams, diagnosing cultural barriers to change, and measuring the influence of leadership development programmes (Denison & Mishra,

2020). Properly implemented, culture analytics can foster inclusive, engaging, and productive work environments that strengthen employee satisfaction, retention, and performance.

Empirical evidence supports the value of culture analytics. For example, organisations with strong, positive cultures consistently outperform competitors in financial performance, customer satisfaction, and employee engagement (Kotter & Heskett, 2020). Further, studies confirm the predictive validity of culture analytics in identifying cultural drivers of innovation, resilience, and adaptability (O'Reilly & Chatman, 2020). Nonetheless, challenges remain. Critics warn that reliance on algorithms risks reducing complex cultural phenomena to oversimplified metrics, ignoring contextual and subjective dimensions (Schneider, 2013). Ethical concerns around privacy, data protection, and employee surveillance also persist (Schein, 2019). Additionally, debates highlight the role of leadership, organisational structure, and power dynamics in shaping both culture and the outcomes of culture analytics (Burkus, 2014). Overall, culture analytics remains a significant framework for organisational diagnosis and transformation, though it demands careful, ethical application (Schein, 2019).

Sustainability is a growing dimension within culture analytics, referring to the integration of sustainability principles into cultural diagnostics and interventions (Gutterman, 2020). Environmental sustainability involves leveraging culture analytics to assess ecological impacts of organisational activities, including energy use, waste, and carbon emissions (Cetiner & Yenilmez, 2021). By quantifying such impacts, organisations can develop strategies to minimise ecological footprints and adopt greener practices. Social sustainability, by contrast, encompasses the analysis of workplace culture, inclusivity, and equity to improve well-being and diversity outcomes (Ifran, Alaloul, & Ghufran, 2022). In this way, data on employee engagement and collaboration can inform initiatives that foster equitable and socially sustainable work environments. Economic sustainability, finally, relates to linking cultural data to financial outcomes, including efficiency, cost-effectiveness, and profitability (Sedita, Blasi, Yang, & Jiawen, 2022).

These dimensions have direct application to fisheries enterprises in Nyaminyami Rural District. Culture analytics can illuminate employee sentiment, identify misalignments between organisational values and workplace practices, and support interventions to strengthen cultural cohesion (Sedita et al., 2022). In fishing companies, such insights can inform training, workforce retention

strategies, and human resource policies aligned with sustainability goals (BasuMallick, 2021). Moreover, analysis of communication networks and collaboration patterns can highlight soft skills such as leadership and problem-solving, informing targeted capacity-building initiatives (BasuMallick, 2021).

Despite the significance of the fishing industry in Nyaminyami Rural District, sustainability remains underexplored within corporate culture analytics. This gap constrains long-term industry viability, undermining ecological integrity, community livelihoods, and economic resilience. Addressing this lacuna requires an examination of how culture analytics can be deployed to strengthen workplace culture and embed sustainability principles in the fisheries sector. Accordingly, this study explores the role of corporate culture analytics in promoting sustainability among fishing enterprises in Nyaminyami Rural District, Zimbabwe.

Methodology

The study adopted a mixed-methods approach underpinned by the pragmatist paradigm, integrating both quantitative and qualitative techniques. The quantitative component was employed to identify factors and related variables, drawing on the deductive logic of testing established theories objectively (Pratt, 2016). In contrast, qualitative inquiry was utilised to capture the subjective experiences, perceptions, and attitudes of employees regarding organisational culture, with specific focus on culture analytics in assessing employee sentiment, cultural alignment, and soft skills within fishing companies in Kariba District. The combination of these approaches enabled the researcher to gather both broad, generalisable data from a larger population and in-depth insights from selected participants, thus providing a comprehensive perspective on the phenomenon under study.

A two-stage sampling strategy was employed, combining probability and non-probability methods. Simple random sampling was used to select 15 respondents for the quantitative survey, while purposive sampling was used to identify 12 participants with rich knowledge and experience for the qualitative interviews. The population frame comprised 27 registered fishing companies in Nyaminyami Rural District, focusing specifically on heads of departments as key informants. A cross-sectional survey design was adopted, allowing the measurement of exposures and outcomes at a single point in time, offering a snapshot of organisational culture-related dynamics (Bryman, 2014; Dalsgard, 2016; Saunders & Thornhill, 2012).

Data were collected using structured questionnaires for the quantitative survey and semi-structured interview guides for the qualitative component. Questionnaires were chosen for their cost-effectiveness, efficiency, and capacity to elicit standardised responses while ensuring respondent anonymity (Beins & McCarthy, 2012; O'Sullivan, 2012; Saunders, Lewis, & Thornhill, 2012). Semi-structured interviews were used to probe more deeply into organisational culture and sustainability practices, with an interview guide ensuring consistency across participants while allowing flexibility for richer narratives (Neuman, 2011; Creswell et al., 2018). Quantitative data were analysed using descriptive statistics to identify patterns in the use of culture analytics tools, while thematic analysis was applied to the qualitative data to identify key themes and categories relating to employee sentiment, cultural alignment, and soft skills (Creswell et al., 2018; Miles, Huberman, & Saldaña, 2014). To enhance validity and reliability, strategies such as member checking and peer debriefing were implemented, while ethical guidelines ensured informed consent, anonymity, and confidentiality throughout the research process. Fieldwork was carried out in four wards of Omay, Chalala (Ward 1), Mola A (Ward 3), Mola B (Ward 4), and Gatche-Gatche (Ward 2), which represent primary fishing zones in the Nyaminyami Rural District.

Results and Discussions

The study achieved a satisfactory overall response rate of 74%, with 66.6% of respondents completing the structured questionnaires and 83.3% participating in the semi-structured interviews. This level of participation is considered adequate for both quantitative and qualitative inquiry, providing a robust dataset for analysis (Bryman, 2016). The relatively high response rate also reflects the perceived importance and relevance of the research focus to fishing enterprises in Nyaminyami District. It suggests that issues of organisational culture and sustainability are of significant concern to both management and employees within the sector, thereby reinforcing the validity and practical value of the study's findings. Table 1 shows the response rate.

Table 1: Response rate

Description	Number of questionnaires / Interviews administered	Number of questionnaires administered and returned	Percentage of response rate
Questionnaires	15	10	66.6%
Interview	12	10	83.3%
Total	**27**	**20**	**74%**

The study results showed that 66.6% respondents responded to the structured questionnaires whereas 83.3% participants responded to interview guide. However, overall response rate stood at 74%. High response rate implies the importance of the matter to the fishing business in Nyaminyami District.

Construct responses

To assess how corporate culture analytics impact on fishing business in Nyaminyami Rural District in Zimbabwe, respondents were asked to rate their agreement with several statements using a 5-point Likert scale, from 'Very Low' (1) to 'Very High' (5). The mean and standard deviation (SD) of responses were then calculated to summarise the data, with specific mean score ranges categorizing responses as follows: Very high (4.51 - 5), High (3.51 - 4.50), Moderate (2.51 - 3.50), Low (1.51 - 2.50), and Very Low (1 - 1.50), based on Lindner and Lindner (2024). These categorised mean scores allow for a clear interpretation of participants' collective viewpoints, highlighting the perceived effectiveness of culture analytics and its implications on sustainable development of fishing business in Zimbabwe.

Culture analytics and implications for development of fishing businesses in Nyaminyami Rural District, Zimbabwe

Several culture analytics (CA) items were included to evaluate their implications for sustainable development of fishing business in Nyaminyami Rural District, Zimbabwe. The descriptive statistics, specifically the mean and standard deviation (SD) for each (CA) item, are detailed in Table 1. These statistics provide insights into the extent to which respondents agree with CA within their organisations and the perceived implications on their fishing business.

Table 2: Culture Analytics descriptive statistics

Culture Analytics items	Mean	SD
Interactive visualisation of large data sets and data flows.	3.003	0.852
Visual analytics, simulation	2.99	0.832
Systematic use of large-scale computational analysis and interactive visualisation of cultural patterns	2.94	0.76
Google Analytics that process and organise information provided as direct inspiration for the idea of Cultural Analytics.	2.897	0.801
Online discourse around (or accompanying) cultural activities, cultural objects, and creation process voluntarily created by people.	2.823	0.792
Cultural news and reviews published on the web (web sites, blogs)	2.957	0.781
Image processing and computer vision techniques to automatically analyse large sets of visual cultural objects to generate numerical descriptions of their structure and content.	2.893	0.742
Organisational Culture Assessment Instrument (OCAI) for culture analytics	1.777	0.982
Software such as Google Trends and Nelson's Blog Pulse	1.723	0.947
Overall mean score	2.63	0.876

Table 2 presents the descriptive statistics for culture analytics (CA) items related to the development of the fishing industry in Nyaminyami District. The overall mean score across the items was 2.63 (SD = 0.876), suggesting that CA practices are perceived to be present but only moderately integrated, with a cautiously positive influence on the sustainability of fishing businesses. Interactive visualisation of large datasets and data flows yielded a mean of 3.003 (SD = 0.852), reflecting a relatively neutral stance on its contribution to sustainable development. Similarly, the integration of visual analytics and simulation to improve operational efficiency scored a mean of 2.99 (SD = 0.832), signalling comparable perspectives regarding operational effectiveness. Items measuring the systematic use of large-scale computational analysis and the visualisation of cultural patterns produced a mean of 2.94 (SD = 0.760), indicating reservations about the efficacy of CA in advancing prescriptive analytics. Tools such as Google Analytics, which has informed the conceptual evolution of cultural

analytics, scored 2.897 (SD = 0.801), while online discourse related to cultural activities and objects scored 2.893 (SD = 0.742). Lower scores were reported for cultural news and reviews published on digital platforms (M = 1.777, SD = 0.982) and image processing/computer vision techniques (M = 1.723, SD = 0.947), suggesting that these CA applications remain underutilised or poorly recognised. Similarly, the Organisational Culture Assessment Instrument (OCAI) and the use of CA software such as Google Trends and Nelson's Blog Pulse reported low mean scores (1.723–1.777), highlighting significant gaps in CA adoption within the fishing industry. Overall, the quantitative data indicate that while CA is recognised as beneficial, its adoption remains partial and inconsistent, signalling the need for targeted interventions to enhance integration and impact (Lindner & Lindner, 2024; Aguinis, Villamor, & Gabriel, 2020).

Qualitative interviews were used to complement the survey data and to explore perceptions of CA in greater depth. Following Creswell's (2017) three-stage procedure, transcription, coding, and thematic analysis, the responses revealed several recurring themes. First, participants emphasised the potential of CA to inform decision-making on innovation and technology adoption, enabling businesses to identify areas for improvement, invest in modern fishing technologies, and form partnerships with research institutions (Participant 1). Participant 1 had this to say:

> *…corporate culture analytics can inform decision-making processes related to innovation and technology adoption in the fishing business. By analysing data on current practices, employee attitudes, and market trends, companies can identify opportunities for improvement and growth. This involve investing in new technologies to improve fishing efficiency, implementing training programs to enhance skills and knowledge, or developing partnerships with research institutions to advance sustainable fishing practices.*

Participant 2 asserted that:

> *…the sustainability of corporate analytics is essential for the development of the fishing business in Nyaminyami Rural District and by leveraging data driven insights, our companies are making informed decisions that balance economic and environmental factors.*

Participant 3 added that:

> *The current state of corporate culture within the fishing business in Nyaminyami Rural District vary, depending on factors such as the size of the fishing operations, ownership and structure. Many fishing businesses in Nyaminyami Rural District are adhering to traditional practices and informal norms, rather than corporate culture frameworks.*

Participant 4 avers that:

> *…here a strong emphasis on collective ownership, shared responsibilities, mutual support with fishing cooperatives or community-based organizations exists, with strong ties to cultural traditions, social networks, and economic livelihoods…we are satisfied workplace culture, such as teamwork and camaraderie which keeps us going and achieve sustainable goals set.*

Participant 5 alluded that:

> *One of the key implications of corporate culture analytics for the fishing business in Nyaminyami Rural District is the need to adopt sustainable practices that minimise the impact on the environment. This includes implementing responsible fishing techniques, reducing waste and pollution, and conserving natural resources. By prioritising sustainability, companies can ensure the long-term health of fish populations and ecosystems, as well as the livelihoods of local communities who depend on fishing. Participant 6 was of the opinion that: … in addition to environmental considerations, corporate culture analytics helps our fishing companies to focus on social sustainability… and this involves ensuring fair labour practices, supporting local communities and promoting diversity and inclusion within the workforce.*

Notably, by fostering a positive corporate culture that values our employees and the community, our fishing companies can enhance their reputation, attract and retain talent, and contribute to overall well-being. Participant 7, therefore, commented that:

> *By leveraging data analytical tools and techniques, fishing companies can gain insights into employee sentiments, attitudes, and perceptions. These insights can reveal areas of alignment or misalignment between organizational values, employee expectations and workplace practices, providing valuable guidance for cultural improvement initiatives.*

Participant 8 also had this to said:

> *…relatively equipped with requisite tools to analyse data, key metrics related to employee welfare, well-being, turnover rates and performance are reflected and data driven decision given to this respect so as to achieve sustainability. Thus, therefore, armed with this information, human capital teams can develop targeted programs and interventions to address cultural gaps, enhance employee satisfaction, and foster a positive work environment conducive to high performance and employee retention.*

Participant 9 also affirms that:

> ***…****culture analytics can provide insights into employee soft skills, facilitating the development of training and engagement initiatives to enhance workforce capabilities. Participant 10 confirms that: …while traditional fishing practices in Nyaminyami Rural District emphasize respect for natural resources and sustainable harvesting techniques, challenges such as overfishing, habitat degradation, and environmental pollution, illegal fishing practices, such as using illegal nets, and dynamite fishing pose threats to fish stock and biodiversity and raise ethical concerns.*

The absence of formalised corporate culture frameworks makes it challenging to address these issues effectively. Awareness of corporate culture concepts and principles are limited among fishing business in Nyaminyami Rural District, particularly among smaller, locally-owned enterprises. Again, formal training and education on leadership, ethics, and organizational behaviour is lacking, leading to a reliance on informal learning and experiential knowledge. This becomes disastrous to the environment and all stakeholders.

Respondents also underscored the role of CA in ensuring that decision-making balances economic and environmental considerations (Participant 2), while acknowledging that corporate culture in the fishing sector varies considerably depending on ownership, size, and structural arrangements (Participant 3).

Collective and community-based organisational cultures

A second theme concerned the strength of collective and community-based organisational cultures. Many respondents reported that fishing cooperatives and community groups prioritise shared responsibilities, mutual support, and social cohesion, reflecting deeply embedded cultural traditions (Participant 4). Third, participants linked CA to the promotion of environmental sustainability, noting that analytics can support the adoption of responsible fishing techniques, waste reduction, and the conservation of natural resources (Participant 5). Others highlighted its contribution to social sustainability, including fair labour practices, workforce diversity, and community development (Participant 6). In addition, respondents stressed that CA can provide insights into employee sentiment, soft skills, and workplace alignment, thereby guiding training initiatives and strategies to improve retention and performance (Participants 7–9).

Nonetheless, challenges were also identified. Several participants observed that traditional fishing practices and informal norms dominate smaller, locally-owned enterprises, where formal corporate culture frameworks and CA adoption remain limited. Concerns were raised about overfishing, habitat degradation, and illegal practices such as dynamite fishing, which are exacerbated by the absence of structured cultural frameworks and training in leadership, ethics, and organisational behaviour (Participant 10). These challenges reinforce critiques in the literature that caution against overreliance on data-driven models without consideration of contextual, cultural, and ethical dimensions (Sedita, Blasi, & Jiawen, 2022).

Taken together, these findings highlight that while CA is recognised as a valuable tool in fostering positive organisational culture, innovation, and sustainability, its adoption in Nyaminyami's fishing industry remains uneven. This resonates with broader research emphasising the importance of workplace culture for organisational effectiveness and employee well-being (Cooke & Arlinghaus, 2024) and with emerging studies underscoring the role of soft skills in organisational resilience (Koehn, Allison, Golden, & Lilborn, 2022). The results thus position CA as an underutilised yet potentially transformative mechanism for balancing economic, environmental, and social imperatives in resource-dependent industries.

Discussion

The findings of this study foreground the ambivalent status of Culture Analytics (CA) within the fishing enterprises of Nyaminyami Rural District, reflecting both its transformative potential and the persistent barriers to its institutionalisation. Quantitative evidence revealed a moderate overall adoption of CA (M = 2.63, SD = 0.876), suggesting that while digital tools are recognised, they remain inconsistently embedded in organisational practice. Higher mean scores for interactive data visualisation (M = 3.003) and simulation tools (M = 2.99) point to a cautious receptivity to analytics-driven decision support, whereas markedly lower scores for the Organisational Culture Assessment Instrument (M = 1.777) and software such as Google Trends (M = 1.723) reflect limited technological diffusion and weak institutional anchorage. These patterns resonate with Lindner and Lindner's (2024) contention that in developing economies, analytic instruments are often underutilised due to infrastructural deficits, low digital literacy, and fragile institutional support.

At a conceptual level, the partial and uneven integration of CA replay Aguinis, Villamor, and Gabriel's (2020) argument that data-driven tools cannot generate substantive organisational change without being embedded within broader cultural routines and supported by strategic leadership. In the Nyaminyami context, this weakness is evident in the dominance of informal norms and traditional leadership structures, which often supplant structured frameworks. The absence of governance around ethics, leadership, and organisational behaviour further exacerbates vulnerabilities, particularly regarding ecological degradation, overfishing, and illicit practices such as dynamite fishing. This echoes Sedita, Blasi, and Jiawen's (2022) caution that analytics divorced from contextual and ethical frameworks risk irrelevance and compromise.

Qualitative evidence enriches this picture by demonstrating the perceived value of CA as a mechanism for organisational transformation. Participants identified CA as a driver of innovation, technological modernisation, and workforce development, with the capacity to inform decision-making on sustainable fishing practices and employee well-being. The findings align with Cooke and Arlinghaus (2024), who argue that analytic cultures foster resilience and inclusivity, and with O'Reilly and Chatman (2020), who highlight the predictive validity of cultural diagnostics in identifying organisational adaptability. Importantly, respondents located CA at the intersection of economic, environmental, and social imperatives, the very dimensions where fisheries are most vulnerable to systemic shocks.

A key emergent theme concerns the interplay between cultural tradition and organisational transformation. Fishing cooperatives and community-based enterprises in Nyaminyami exhibit strong collective cultures rooted in mutual support, communal responsibility, and Indigenous knowledge systems. Such embedded social capital constitutes a valuable asset for social sustainability and resonates with Dobson's (2007) concept of environmental citizenship, where stewardship of natural resources is mediated by cultural norms. Yet these strengths are undermined by the lack of formal training in leadership, ethics, and organisational behaviour, which constrains the translation of CA insights into structured interventions. This reflects Schein and Schein's (2019) assertion that leadership is critical in shaping culture, especially when navigating the tension between tradition and modernisation.

The study also highlights CA's potential in embedding sustainability into organisational culture. Participants consistently emphasised its role in advancing environmental stewardship through responsible fishing, waste reduction, and monitoring ecological impacts. These findings converge with the literature on sustainability-oriented analytics, which stresses the capacity of cultural diagnostics to integrate ecological, social, and economic priorities (Cetiner & Yenilmez, 2021; Gutterman, 2020). Socially, the emphasis on fair labour practices, diversity, and employee well-being reflects Elkington's (1997) theorisation of the "triple bottom line." Economically, CA was viewed as a source of competitive advantage, enhancing retention, improving soft skills, and strengthening long-term resilience, consistent with Kotter and Heskett's (1992) seminal link between culture and performance.

Nevertheless, contradictions persist. While participants acknowledged CA's potential, many also revealed that awareness remains superficial, particularly among smaller, locally owned enterprises reluctant or unable to engage with formalised frameworks. This paradox underscores Schneider's (2013) critique that culture, as lived experience, cannot be reduced to algorithmic outputs without risking distortion. The ambivalence of CA adoption in Nyaminyami thus reflects both structural deficits, digital illiteracy, limited investment, and weak institutions, and epistemological tensions between localised, traditional knowledge and globalised, technology-driven paradigms.

Taken together, the findings position CA as an underutilised, yet potentially transformative, instrument in Zimbabwe's fisheries sector. Its capacity to align organisational practice with sustainability imperatives depends not only on technological adoption but also on leadership development, institutional strengthening, and culturally embedded capacity-building. Echoing Denison and Mishra's (1995) theory of organisational effectiveness, the evidence suggests that CA can enhance adaptability, mission alignment, and employee involvement, provided that traditional cultural practices are integrated into, rather than marginalised by, pluralistic and pragmatic organisational frameworks.

Bottom of Form

Conclusions

The study demonstrated that corporate CA holds significant potential as a transformative tool for fishing companies in Nyaminyami Rural District. Organisations are able to interrogate their internal dynamics, capture employee sentiment, assess cultural alignment, and evaluate soft skills when they use CA frameworks. The insights provide a robust basis for decision-making expected to go beyond intuition or tradition, aligning organisational practices with the principles of sustainability.

The findings revealed that while there is an awareness of the importance of CA within the fishing industry, its application remains partial, uneven, and in some cases underdeveloped. Quantitative results indicated only moderate utilisation of CA tools, reflecting cautious engagement with technologies such as visual analytics, computational modelling, and online discourse analysis. Similarly, qualitative data revealed that traditional fishing enterprises often continue to rely on informal practices and norms rather than structured organisational

culture frameworks. This demonstrates a critical gap between awareness and implementation of CA in the sector.

Nevertheless, CA emerged as a multidimensional mechanism capable of advancing environmental, social, and economic sustainability in fishing businesses. Environmentally, CA can facilitate the adoption of responsible fishing techniques and waste reduction strategies. Socially, it provides tools for improving workforce diversity, labour practices, and employee well-being. Economically, CA offers pathways to enhance operational efficiency, innovation, and long-term competitiveness. The study therefore concludes that corporate culture analytics, when systematically integrated, can serve as both a diagnostic and developmental instrument for sustainable organisational growth in resource-dependent industries such as fisheries.

Recommendations

Based on the conclusions, several recommendations are advanced to guide fishing companies in Nyaminyami Rural District, policymakers, and future researchers:

i) Integration of CA into organisational practices
Fishing companies in Nyaminyami Rural District should institutionalise CA as part of their core organisational processes. This involves embedding data-driven tools into human resource management, operations, and governance structures. By doing so, companies can transition from reliance on traditional norms to evidence-based decision-making frameworks.

ii) Investment in technology and skills development
The effective use of CA requires both appropriate technology and human capacity. Companies should invest in digital platforms, analytic software, and training programmes to equip managers and employees with the skills to collect, interpret, and apply cultural data. Partnerships with research institutions and government agencies could also facilitate capacity-building initiatives tailored to the fishing sector.

iii) Tailored interventions for organisational improvement
Insights from CA should inform targeted interventions in areas such as employee satisfaction, communication practices, and skill enhancement. For example, cultural misalignments identified through analytics could be addressed through team-building exercises, leadership development, or specific training modules that promote cohesion and accountability.

iv) Promotion of Sustainability through CA
Organisations are expected to harness CA to embed sustainability into corporate culture. This includes designing policies and practices that reinforce responsible

fishing, reduce environmental harm, and strengthen social responsibility within local communities. CA can also serve as a monitoring tool for evaluating the long-term impact of these sustainability strategies.

v) Future research

To expand the knowledge base, further research is needed. Longitudinal studies should be conducted to measure the long-term effects of CA interventions on employee engagement, organisational resilience, and ecological sustainability. In addition, comparative studies across sectors and regions could generate insights into the contextual adaptability of CA, strengthening its applicability in diverse socio-economic settings.

References

Aguinis, H., Villamor, I., & Gabriel, K. P. (2020). Understanding employee responses to COVID-19: A behavioural corporate social responsibility perspective. *Management Research: Journal of the Lberoamericana Academy of Management, 18*(4), 421–438. https://doi.org/10.1108/MRJIAM-06-2020-1065.

Armstrong, M., & Taylor, S. (2014). *Armstrong's handbook of human resource management practice* (13th ed.). Kogan Page.

Arora, A. A. (2021). Corporate governance and firm performance in developing countries: Evidence from India. *Corporate Governance*, 21(3), 420–436. https://doi.org/10.1108/CG-12-2019-0371.

Assoratgoon, W., & Kantabutra, S. (2023). Toward a sustainability organizational culture model. *Journal of Cleaner Production, 400*, 136666. https://doi.org/10.1016/j.jclepro.2023.136666.

Babbie, E. (2019). *The practice of social research* (14th ed.). Cengage.

Beins, B. C., & McCarthy, M. A. (2012). *Research methods and statistics*. Pearson Education.

Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.

Burkus, D. (2014). How to tell if your company has a creative culture. *Harvard Business Review*. https://hbr.org

Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework* (3rd ed.). Jossey-Bass.

Cascio, W. F., & Boudreau, J. W. (2016). *The Oxford handbook of human resource management*. Oxford University Press.

Cetiner, B., & Yenilmez, M. I. (2021). The role of culture in environmental sustainability. *Present Environment and Sustainable Development, 15*(2), 259–272. https://doi.org/10.15551/pesd2021152021.

Cooke, S., & Arlinghaus, R. (2024). Learning, thinking, sharing and working across boundaries of fisheries science. *ICES Journal of Marine Science*. https://doi.org/10.1093/icesjms/fsae026.

Creswell, J. W. (2021). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (6th ed.). Pearson Education.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Dalsgaard, A. (2016). Cross-sectional studies. In *The SAGE encyclopaedia of educational research, measurement, and evaluation* (pp. 401–405). Sage.

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science, 6*(2), 204–223. https://doi.org/10.1287/orsc.6.2.204.

Dobson, A. (2007). Environmental citizenship: Towards sustainable development. *Sustainable Development, 15*(5), 276–285. https://doi.org/10.1002/sd.344.

Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone.

Gutterman, A. S. (2020). *The sustainable business handbook: A guide to becoming more innovative, resilient and successful*. Routledge.

Hilborn, R., Banobi, J., Hall, S. J., Pucylowski, T., & Walsworth, T. E. (2018). The environmental cost of animal source food. *Frontiers in Ecology and the Environment, 16*(6), 329–335. https://doi.org/10.1002/fee.1822

Hilborn, R., & Hilborn, U. (2019). *Ocean recovery: A sustainable future for global fisheries?* Oxford University Press.

Ifran, M., Alaloul, W. S., & Ghufran, M. (2022). Analysing the impact of organisational culture on social sustainability: A perspective of the construction industry. *Environmental Development and Sustainability, 26*(2), 1103–1133. https://doi.org/10.1007/s10668-022-02277-2

Karenge, L., & Kolding, J. (2015). On the ecological and socio-economic impacts of Lake Kariba fisheries. *African Journal of Aquatic Science, 40*(3), 223–235. https://doi.org/10.2989/16085914.2015.1077771.

Koehn, J. Z., Allison, E. H., Golden, C. D., & Lilborn, R. (2022). The role of seafood in sustainable diets. *Environmental Research Letters, 17*(3), 035005. https://doi.org/10.1088/1748-9326/ac3954.

Kotter, J. P., & Heskett, J. L. (1992). *Corporate culture and performance*. Free Press.

Lindner, J. R., & Lindner, J. R. (2024). Analysing Likert-scale data: Advances in social science research methods. *Journal of Applied Social Science, 18*(1), 55–70. https://doi.org/10.1177/19367244231123456.

Mabaya, C. P., & Mafongoya, P. (2017). The role of institutions in managing local-level climate change adaptation in semi-arid Zimbabwe. *Climate Risk Management, 16*, 93–105. https://doi.org/10.1016/j.crm.2017.03.004

Machena, C., Kolding, J., & Sanyanga, R. (2017). Fisheries of Lake Kariba: Socio-economic and ecological dynamics. *FAO Fisheries Technical Paper*.

Marshall, B. E. (2011). The state of Lake Kariba fisheries. *African Journal of Aquatic Science, 36*(2), 235–241.

Marshall, B. E. (2018). Revisiting Lake Kariba's fisheries: Resilience, overfishing, or both? *African Journal of Aquatic Science, 43*(4), 345–357. https://doi.org/10.2989/16085914.2018.1523789.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage.

Neuman, W. L. (2011). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Pearson.

O'Reilly, C. A., & Chatman, J. A. (2020). Culture as social control: Corporations, cults, and commitment revisited. *Research in Organizational Behaviour, 40*, 100–115. https://doi.org/10.1016/j.riob.2020.100139.

Pauly, D., & Zeller, D. (2016). Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining. *Nature Communications, 7*, 10244. https://doi.org/10.1038/ncomms10244.

Pauly, D., & Zeller, D. (2016). *Global atlas of marine fisheries: A critical appraisal of catches and ecosystem impacts*. Island Press.

Pratt, M. G. (2016). Crafting qualitative research: From inspiration to publication. *OrganizationalResearchMethods,19*(1),1–6.https://doi.org/10.1177/1094428115613455.

Roethlisberger, F. J., & Dickson, W. J. (1939). *Management and the worker*. Harvard University Press.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.

Schein, E. H., & Schein, P. A. (2019). A new era for culture, change, and leadership. *MIT Sloan Management Review, 60*(4), 14–24. https://sloanreview.mit.edu/article/a-new-era-for-culture-change-and-leadership/

Schneider, B. (2013). Organisational climate and culture. *Annual Review of Psychology, 64*, 361–388. https://doi.org/10.1146/annurev-psych-113011-143809.

Sedita, S. R., Blasi, S., & Jiawen, Y. (2022). The cultural dimensions of sustainable development: A cross-country configuration analysis. *Sustainable Development, 30*(4), 941–954. https://doi.org/10.1002/sd.2351

Worm, B., Orofino, S., & Bradley, D. (2024). Global shark fishing mortality still rising despite widespread regulatory change. *Science, 383*(6679), 225–230. https://doi.org/10.1126/science.adf8984.

Zambezi River Authority. (2023). *Annual report 2022/2023*. Zambezi River Authority. https://www.zambezira.org.

Ziegler, F., & Hilborn, R. (2023). Fished or farmed: Life cycle impacts of salmon consumer decisions and opportunities for reducing impacts. *Science of the Total Environment, 854*, 158591. https://doi.org/10.1016/j.scitotenv.2022.158591.