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A New Train of Thought

Addressing TransNamib's Internal Communication Challenges

By:

James R. Chakalos
Jacob A. Goldsberry
Abigail M. Ismail
Katherine J. Novak

Advisors: Dr. Aaron Sakulich, Dr. Alex Smith
Project Sponsor: Michael Feldmann, TransNamib
ID2050 Professor: Dr. Creighton Peet

May 2nd, 2018

An Interactive Qualifying Project Submitted to the faculty of
WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the Degree of Bachelor of Science

This report represents the work of four WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review.

Abstract

Our goal was to develop an action plan to improve internal communication at TransNamib to increase adaptability, effectiveness, and profitability. Our objectives were to characterize company culture, communication practices, and the associated impacts and context. We learned through interviews, observations, and informal questioning that TransNamib's culture is defined by its steep hierarchy, departmental divisions, and low morale. We found areas for improvement in vertical and interdepartmental communication. We recommended a database, a newsletter, increased managerial interaction, and revised interdepartmental collaboration.

Acknowledgments

We would like to gratefully acknowledge the following individuals for their contributions and assistance in the creation of this report:

Michael Feldmann, *Project Liaison*

Employees of TransNamib Holdings Limited

Dr. Aaron Sakulich, *Project Co-Advisor*

Dr. Alexander Smith, *Project Co-Advisor*

Dr. Creighton R. Peet, *Project Site Director*

Executive Summary

Introduction & Background

The growth of commerce in the global economy relies on the success of transportation companies. In order to operate effectively, transportation companies need to share a variety of information across multiple departments so that each employee has access to pertinent information. A well-developed and efficient communication network is a strong indicator of a company's capabilities. The consequences of insufficient communication are significant and measurable. If employees cannot effectively share information, companies risk financial losses, weakened morale, and internal conflict. However, if a company can recognize the characteristics and adverse effects of poor communication, targeted solutions can be implemented to resolve or prevent the issues.

Horizontal, interdepartmental, and vertical communication are different types of internal communication that are important to the operation and success of a company. Horizontal communication occurs between employees of similar hierarchical level, usually within a team operating to achieve an assigned goal or task. Interdepartmental communication is similar, but involves employee collaboration across different departments rather than just employees of a similar level. Interdepartmental communication helps to ensure that all departments are in line with one another's goals. Vertical communication includes top-down and bottom-up communication and occurs between employees and their supervisors. It is related to the broad goals and strategic efforts of the organization. Top-down communication typically involves tasks, recognition of accomplishments, disciplinary measures, and strategy that the supervisor relays to the general employees. Bottom-up communication usually involves employee feedback, suggestions, and progress reports to supervisors.

Vertical communication is most prevalent in companies with hierarchical structures. A hierarchy has a classification of steepness that depends on the asymmetry of power and influence among members. In a flat hierarchy, employees have supervisors and are able to communicate with them without much acknowledgement of the difference in power. This type of hierarchy allows for more collaboration between employees of different job levels. Communication can flow both formally and informally between supervisor and employee. In a steep hierarchy, there is a clear separation in power and vertical communication must follow the hierarchical structure. The employee must report to their supervisor and the supervisor will give the employee instructions. There is little collaboration or informal communication between the two parties.

For a transportation company, the ultimate goal is to safely deliver products to customers in a manner that results in the highest profit margin. To achieve this, the company must have effective internal communication methods and must properly use horizontal, interdepartmental, and vertical communication to minimize any gaps in the flow of information. Lapses in internal communication are commonly caused by information barriers, missing or incorrectly prepared documents, and ineffective meetings. As a result, unnecessary delays and expenses are created.

TransNamib Holdings Limited, Namibia's national rail and road transportation company, has faced internal communication challenges. The company struggles with relaying information between management and employees, and among departments. Due to this, departments are rarely aligned with each other's objectives. A previous Interactive Qualifying Project (IQP) on employee-to-employee interactions at TransNamib found that some employees bypass their supervisors due to poor relationships and multiple employees working on the same project often

report contradictory information. These findings inspired our project to address TransNamib's internal communication challenges.

Methodology

Our goal was an action plan to improve internal communication at TransNamib Holdings Limited. Our objectives were to:

- Characterize the company culture,
- Determine the communication practices, and
- Identify the impact and context of communication practices.

To achieve these objectives, we used semi-structured interviews, informal questioning, and observations. This allowed us to get to know employees from different departments and job levels on a personal basis and develop a thorough understanding of the company culture and communication methods. After collecting interview, informal questioning, and observation data, we coded the responses to find trends related to communication issues. The coded interview data allowed us to determine the percentages of employees who felt a certain way about TransNamib's culture and communication practices. In addition, we created a profile to determine the unique cultural orientation of the company based on four core orientations: Group, Developmental, Rational, and Hierarchical. The ideal company culture consists of a balanced mix of these four orientations. If one orientation dominates, it can negatively impact the operation and growth of the company.

Results

We found that TransNamib's culture is defined by its steep hierarchical structure, departmental divisions, low employee morale, and employees' passion for the work. We determined that at TransNamib, the Hierarchical orientation is dominant (52%), as evidenced by the adherence to regulations and hierarchical structures that we observed. In addition, there are separate departments for each operational task (e.g. developing customer relationships, maintaining locomotive equipment, and executing delivery schedules). This well-defined internal organization is a key component of the Hierarchical orientation. We determined that the Group orientation is relatively lower in TransNamib's profile (9%). The Group orientation refers to the sense of belonging and development of potential within the company. Employees feel the lack of recognition, low morale, and insufficient training hinders their ability to grow professionally within TransNamib and leaves them without a sense of belonging. We also learned from interviews that employees from headquarters rarely visit other locations and interact with the general workforce. As a result, leaders do not see firsthand the day-to-day challenges that the rest of the company faces.

14 of the 22 employees (64%) with whom we discussed the subject explained that they do not always feel recognized for their expertise and contributions. This feeling was attributed to a range of factors. Some employees felt that their current job titles are not reflective of their extensive experience and skills. Others expressed that respectful comments such as 'please' and 'thank you' are not often used when managers assign tasks or give feedback. The lack of recognition has likely impacted employee morale at TransNamib. 15 of the 17 employees (88%)

who mentioned morale expressed that it was low. Employees explained to us that this is a symptom of low salaries, uncertain job security, and TransNamib's financial state. Despite this, we often heard that employees enjoy their work. This was particularly evident with the skilled laborers we interviewed who expressed a love for working with the locomotives. We also heard optimism about TransNamib's new CEO, Johny Smith, from 24 of the 27 employees (89%) with whom we discussed the subject. Mr. Smith started in February of 2018 and is the first official CEO TransNamib has had since 2014.

We heard from employees that general, day-to-day communication is not a major issue within the company. Instead, the issues mainly come from vertical communication. This type of internal communication is vital for employees to stay informed of management's decisions, as well as for management to hear opinions and feedback from general workers. 23 of the 26 employees (88%) with whom we discussed the subject feel decisions are often not relayed from management to the employees through top-down communication. When they are relayed, management provides little explanation or justification. Employees expressed uncertainty about the direction of the company, and frustration with some decisions of management. In terms of bottom-up communication, employees generally felt comfortable communicating concerns, feedback, or requests through their supervisors, who then relay the message to the appropriate manager or executive. However, many employees felt that a response or reaction to address their concerns was rare. As a result, employees feel ignored by management, leading to frustration and low morale.

Our research demonstrated that interdepartmental communication practices are ineffective. The current system involves each department distributing complicated and non-standardized spreadsheets. Much of the information contained in these documents is not necessary for other departments to know. We found that employees would prefer a more streamlined approach, where they only receive information pertinent to their jobs.

We observed a Mondays @ 3 meeting, which is a weekly interdepartmental meeting to share information and discuss performance challenges. Although these meetings were originally intended to increase collaboration, we found areas for improvement regarding the structure of the meetings. At this meeting, there was low attendance, and when departments shared information, it was often not related to another department's work. When problems came up, the discussion focused on avoiding blame rather than developing solutions. Additionally, there were no meeting minutes being recorded, so any action items that came up throughout the meeting may have been forgotten by the next week.

Recommendations & Conclusion

To address TransNamib's communication challenges, we recommended the implementation of a centralized Information Management System (IMS), a revised Mondays @ 3 structure, a company-wide newsletter, and quarterly management meetings with general workers. The IMS would allow departments to retrieve important information in an easily accessible way. All managers with access to computers would be able to use this system. Information would then be relayed to general workers without computer access. The IMS should have a main page displaying summaries of the most pertinent information relevant to each department. The more detailed information should be contained in a page dedicated to each department. This would organize key information including customer contracts, locomotive and wagon status, manpower, and announcements from management in a more effective way. We

created an example of this system to serve the Operations, Engineering, and Commercial & Marketing departments because we found that they communicate on a daily basis and must do so for the company to serve its clients. We used Google Sheets to create the example IMS, as it is a platform similar to Excel which the company already uses. If the implementation of this system for Operations, Engineering, and Commercial & Marketing is successful, we recommend that a third-party software development company or a WPI Major Qualifying Project creates an application for all departments to use.

We recommended a revised Mondays @ 3 meeting format to further address the interdepartmental challenges. Revisions include a designated secretary, prepared member statements, enforced attendance, and the creation of action items to address the previous week's performance. These revisions are aimed at increasing accountability and developing actionable solutions.

We also recommended a monthly company-wide newsletter to address difficulties in top-down vertical communication and lack of employee recognition. The newsletter would allow all employees to stay updated on recent developments without relying on word of mouth. It would inform all employees about department accomplishments, management's decisions, and the company's goals and vision. Additionally, the acknowledgement of employee milestones, such as anniversaries, would potentially improve employee morale and provide recognition without significant financial investment. The implementation of a newsletter would require employees to volunteer as content creators or editors. It should be printed out and posted at every TransNamib location and published on a monthly basis.

Finally, we recommended quarterly visits to TransNamib's depots by managers in headquarters to create a direct communication channel between the top and bottom of the hierarchy. This should be a rotating responsibility, such that no single manager would need to make a visit two quarters in a row. Managers should sit down individually with employees and listen to employee concerns, ideas, and frustrations. Furthermore, this would be an appropriate time for management to respond to any policy or operational questions that employees have. If management at headquarters can have a better understanding of the situations that yard and depot workers are in, management will be able to make more informed decisions that cater to the needs of the company as a whole. While this is a resource-intensive recommendation, the benefit gained from the sharing of knowledge between the top and bottom would be significant.

We developed these recommendations to address our key findings of inefficient interdepartmental communication, ineffective vertical communication, and low employee morale. We then compiled our recommendations into an action plan. Implementing our recommendations to improve TransNamib's internal communication will help the adaptability, operational efficiency, and growth of the company, while providing Namibia and the surrounding region with a more reliable and efficient link to the global economy.

Authorship

The collaborative writing and editing process we devised was as follows. We split into pairs and each pair took on a chapter to edit. The editing pairs were Abigail & James and Katherine & Jacob. After the first round of edits, the pairs reviewed each others' suggestions and edits. At the end, the team came all together and discussed final edits.

In addition, each team member contributed the following:

James Chakalos: Lead writer for Chapter 4. Took the role of lead editor. Uploaded all feedback to each respective document and combed all documents for spelling and grammar mistakes. Formatted final report.

Jacob Goldsberry: Lead writer for Chapter 5. Designed title page. Automated the process for quantifying all of our interview data to find common opinions shared among TransNamib's employees as well as the cultural orientation of TransNamib using Google Sheets. Designed and constructed the Information Management System mock-up using Google Sheets.

Abigail Ismail: Lead writer for Chapter 2. Created flow diagrams in Chapter 4.

Katherine Novak: Lead writer for Chapter 3. Defined and created TransNamib's company culture profile. Constructed an example newsletter.

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Chapter 1: Introduction

The growth of trade and commerce in the global economy relies on the success of transportation companies (Wood, Barone, Murphey, & Daniel, 2002). In order for these companies to operate well, a variety of information needs to be shared across multiple departments (Buhler & Worden, 2017). It is essential that each employee has access to the pertinent information for the task at hand (Sawyer, 1992). When employees cannot efficiently share important information, companies risk financial losses and weakened morale (Groysberg & Slind, 2012).

TransNamib Holdings Limited (TransNamib), a nation-wide transportation company in Namibia, has faced significant intra-company communication challenges. As explained by the Executive of Operations, Michael Feldmann (personal communication, January 29, 2018), the company struggles with relaying messages within and across departments. Previous reports on employee interactions within TransNamib found that some employees bypass their supervisors due to poor relationships (Frigo, Mattesen, Rigney, & Shea, 2017). As a result, departments are not always in line with each other's objectives. Miscommunication within the company can result in disorganized shipments, causing late deliveries and customer dissatisfaction.

Robust communication practices allow all employees in a company to work as a cohesive team. In contrast, misunderstandings involving job tasks and company procedures can prevent employees from performing their work (Dăneci-Pătrău, 2011; Sawyer, 1992). Constructive relationships with supervisors, as well as effective departmental interaction, can improve clarity of tasks, informed decision-making, and job satisfaction (Bartels, et al., 2010; Postmes, et al., 2001; Molleman, Emans, & Turusbekova, 2011). For transportation companies in particular, disrupted internal communication may result in late deliveries or, ultimately, loss of clientele to competitors (BBC, 2014). These attributes influence workplace operations and culture, which impact a company's competitiveness and profitability. An analysis of the communication practices within a company can highlight gaps in the flow of information. When the characteristics and adverse effects of poor communication are recognized, targeted solutions can be implemented.

An individual's interpersonal skills have been found to contribute more to success in the workplace than technical skills (Crosbie, 2005). There have been several efforts to improve interpersonal skills at TransNamib. They included an incentive program, a mentoring program, and a daily morning meeting for employees without email access (Frigo, Mattesen, Rigney, & Shea, 2017). However, improvements in interpersonal skills do not remedy the broader issues in communication practices within TransNamib. There are numerous published studies on internal communication, but companies operate uniquely and therefore need individual assessments to investigate and improve the internal communication practices. Communication practices, and their associated impacts on TransNamib's operations, have not been directly analyzed with the aim of making improvements. In order to fully appreciate the impact of ineffective communication, the tangible outcomes of poor communication must be identified.

Our goal was to develop an action plan to improve communication across all levels and departments of TransNamib that reflects the technological and financial capabilities as well as the culture of the company. We accomplished this by characterizing the company's culture, determining the current communication methods and patterns, and identifying the impact of communication practices. We collected information through interviews with and observations of

TransNamib employees to gain further insight into the communication practices and culture of the company. Upon completion, we provided TransNamib with recommendations for improving intra-company communication. These recommendations focus on the expansion of existing effective practices and the development of new communication practices, supported by several methods of analyzing communication. We aim for these recommendations to improve TransNamib's adaptability, operational efficiency, and growth while providing Namibia and the surrounding region with a more reliable and efficient link to the global economy.

Chapter 2: Background

In a rail and road transportation company, where customer satisfaction is derived from the timeliness, accuracy, and safety of the company's operations, it is necessary to maintain strong internal communication. In this chapter, we examine the importance of communication as it relates to organizational culture and hierarchical structure, as well as the specific role of communication in freight transportation. Finally, we discuss the current state and future of TransNamib in addition to previous research efforts within the company.

2.1 Company Culture and Communication Practices

A company's culture is based on shared beliefs, values, and goals that direct the way people think and behave (Doyle, 2017). In addition to sharing common values, members of an organization must be able to communicate effectively. This is largely because the majority of work that employees do requires cooperating with others and exchanging information. In a survey, 400 corporations in the United States and United Kingdom reported losing an average of \$60 million every year due to poor internal communication (Buhler & Worden, 2017). In this section we discuss the unique culture of a company, communication among peers and supervisors, characteristics of organizations with clear hierarchical distinctions, and an example of the failure of a company due to poor internal communication.

2.1.1 Company Culture

The culture of a company is essentially the company's personality (Doyle, 2017). Each company has specific qualities that influence the work environment and create a unique culture. Key components of a workplace culture include employee engagement, job purpose, trusting relationships, and continuation of learning (Craig, 2010). Employees who fit harmoniously with their company's culture are more likely to be productive and enjoy their jobs, since they can develop stronger relationships with coworkers. Craig (2010) has found that some of the most successful companies attribute their achievements to the fact that they foster cultures that provide their employees with the environment and tools they need to thrive and grow.

Management often tries to be the driving force that influences a healthy company culture (Chomos, 2017). However, to influence the culture, management must first characterize and understand it. Different approaches are used to determine employee expectations and distinguish cultural impacts. Specific topics that are commonly analyzed are employee's interactions, motivations, and safety. Measuring the culture of a company allows management to establish a plan for change as needed.

The ideal culture for each company depends on its unique circumstances (Denison & Spreitzer, 1991). The four main orientations of culture are: Group, Developmental, Rational, and Hierarchical, as defined in Figure 1, overleaf.

<p style="text-align: center;">Group Culture</p> <p>Focus: flexibility, internal organization</p> <p>Purpose: team maintenance</p> <p>Motivational Factors: belonging, cohesiveness, membership, trust</p> <p>Effectiveness: development of human potential and member commitment</p> <p>Leaders are participative, considerate, and supportive.</p>	<p style="text-align: center;">Developmental Culture</p> <p>Focus: flexibility, change, external organization</p> <p>Purpose: adaptability, variety</p> <p>Motivational Factors: growth, stimulation, creativity</p> <p>Effectiveness: development of new markets, resource acquisition,</p> <p>Leaders are entrepreneurial and idealistic.</p>
<p style="text-align: center;">Hierarchical Culture</p> <p>Focus: internal efficiency, uniformity, coordination, evaluation</p> <p>Purpose: execution of regulations</p> <p>Motivational Factors: security, order, rules</p> <p>Effectiveness: control, stability, efficiency</p> <p>Leaders are conservative, cautious, attentive to detail and technical matters</p>	<p style="text-align: center;">Rational Culture</p> <p>Focus: productivity, performance, achievement</p> <p>Purpose: pursuit and attainment of well-defined objectives</p> <p>Motivational Factors: competition, success, achievement of goals</p> <p>Effectiveness: planning, productivity, and efficiency</p> <p>Leaders are direct, goal oriented, functional, and productive.</p>

Figure 1: *The four main orientations of culture* (Denison & Spreitzer, 1991, p. 5).

The main features of the orientations of cultures are internal or external focus and flexibility or control (Denison & Spreitzer, 1991). Internal and external features denote focus on the individual organization or the competition. Flexibility and control refer to the spontaneity or order of a work environment. Each orientation can be categorized by these features; Group Culture is internally focused and flexible, Developmental Culture is externally focused and flexible, Rational Culture is externally focused and controlled, and Hierarchical Culture is internally focused and controlled.

Company culture is defined by analyzing how a specific company fits each category of culture (Denison & Spreitzer, 1991). A percentage is then assigned to each of the four orientations. An example of this is represented in Figure 2, overleaf. The ideal profile of a company is a square with all cultural orientations in equilibrium; however, in practice, one orientation is likely to be dominant. If one orientation is dominant, a company can be considered dysfunctional as the strengths of that orientation become weaknesses. For example, too much control can result in rigidity or too much flexibility can lead to spontaneity and eventually chaos. The most effective company culture is a combination of the four orientations that fits the company's individual structure and situation.

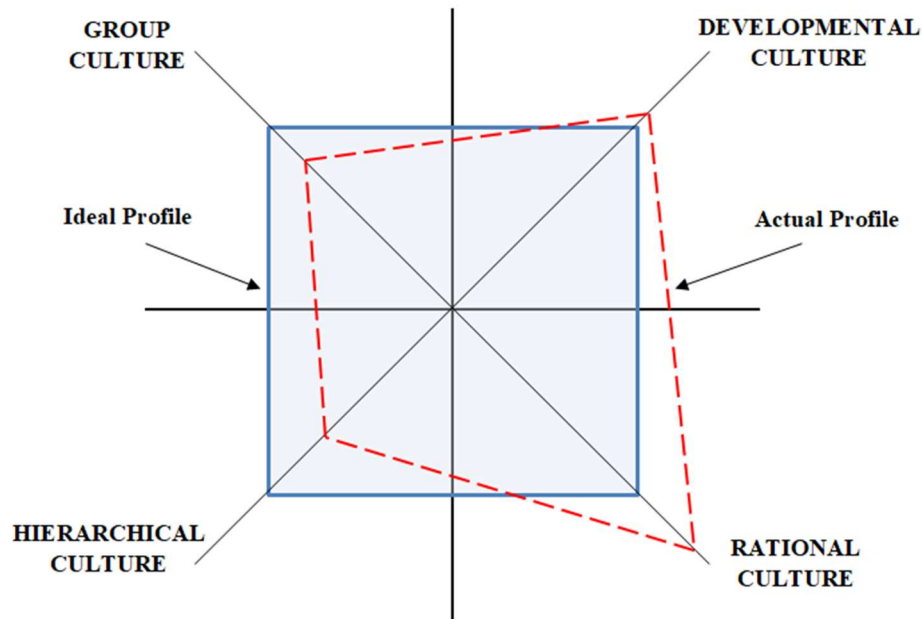


Figure 2: *Example profile of company culture* (Denison & Spreitzer, 1991).

Within organizations, certain channels of communication are used. Surbhi (2018) divides this communication into two categories: formal and informal. Formal communication is defined as the official communication methods and hierarchy established by the company itself. It includes task-related communication, meetings, and other forms of scheduled information sharing related to the company operations. Surbhi (2018) defines informal communication as non-company-mandated communication. It may or may not be task-related, but it is communication beyond or different from what the company defines as the formal hierarchy. It includes the casual conversations that employees have across or within departments. Other authors (Kraut, Fish, Root, & Chalfonte, 1992) define informal communication as strictly non-task-related communication, but this stance minimizes the task-related communication structures that employees may develop beyond what the company mandates. If members of an organization rely primarily on formal communication channels, it might be that the Hierarchical orientation is dominant because formal communication channels are a form of controlled internal coordination.

Soft skills also influence an organization's culture. Soft skills include leadership, team building, conflict management, active listening, problem solving, and self-awareness. These are perceived as challenging to learn since they are situationally-dependent and can be difficult to quantify. An individual's communication style and ability to communicate effectively relies heavily on his or her soft skills (Nitin & Mamta, 2011). The negative effects of poor communication have prompted companies to introduce soft-skill education and training initiatives and recently, companies in the United States have been placing a higher significance on soft skills when evaluating prospective employees (Borghans, Green, & Mayhew, 2001). This is mostly due to the role soft skills play in an individual's ability to participate in discussions and communicate ideas effectively in a group setting. Having the ability to communicate in a manner that is constructive in reaching the goals of the company as well as being non-abrasive to coworkers helps a company run smoothly as a cohesive unit (Hes, 2017; Nitin, & Mamta, 2011).

2.1.2 Horizontal and Interdepartmental Communication

Horizontal and interdepartmental communication are both types of communication that occur through collaboration to achieve a common goal. Horizontal communication takes place between employees of similar position level, usually within a team of coworkers operating to achieve an assigned goal or task (Bartels et al, 2010). Interdepartmental communication is similar to horizontal communication, but it involves the collaboration of departments rather than just employees within a team. Both types of communication are important to the operation and success of a company.

Effective horizontal communication improves team cohesion and a sense of belonging (Bartels et al, 2010; Kim, Magnusen, & Andrew, 2016; Sullivan & Feltz, 2010). A study of communication on United States sports teams revealed four main factors of effective horizontal communication: Distinctiveness, Acceptance, Positive Conflict, and Negative Conflict (Sullivan & Feltz, 2010). In this study, athletes noted that effective team communication, in their society's culture, should include coherent and direct verbal and nonverbal messages (Distinctiveness), an interpersonal exchange of appreciation among members (Acceptance), and constructive methods of dealing with disagreements (Positive Conflict). In contrast, ineffective team communication results from the expression of agitation or anger to resolve disagreements (Negative Conflict). While sports teams have different communication needs than work groups, the importance of clear, open messaging is universal for any team. In businesses, effective use of the four categories of horizontal communication can build a sense of belonging in the organization (Bartels et al, 2010).

Interdepartmental communication ensures that all departments are in line with one another's goals (Best Strategies: Interdepartmental Communication, 2018). By having interdepartmental meetings and relaying clear and purposeful messages all departments can work as a cohesive unit. These interactions allow the company to operate smoothly (Papa, 2017). Papa elaborates that if one department makes a change without informing other departments, it could have an overall adverse effect on the company. The lack of communication could result in a "lack of motivation among employees and an absence of trust and respect between departments" (para. 3).

The importance of interdepartmental communication can be highlighted in a case study titled "Relational Audit Case Study: Inter Departmental Synergy" (Relationships Foundation, 2003). The subject was an unnamed multinational company that wanted to speed up the process of developing a new product. The protocol in place involved the collaboration of at least 10 departments. The study found that departmental rivalry was a key contributing factor to the slowing down of product development and the introduction of new workplace practices. This rivalry caused a lack of communication and misaligned goals across departments.

These issues were alleviated by implementing two different solutions, one of which was for each department to nominate one person to be the representative for that project. These representatives would then meet in person to discuss the needs of each department and come to a group agreement for the product. Another solution was to cross-train employees with respect to different departments. This helped employees understand the backgrounds of employees in different areas of the company to raise sensitivity and understanding between departments. In doing so, the rivalry was lowered, and personal relations increased between departments. This is an example of why interdepartmental communication is vital for the timely and successful

operation of a company. While this example is of a worldwide company, departments within a company of any size must cooperate in order for a company to achieve its goals.

2.1.3 Vertical Communication

Vertical communication occurs between employees and supervisors and involves messaging about the broad goals and strategic efforts of the organization (Bartels et al, 2010). There are two predominant forms of vertical communication: top-down and bottom-up. Top-down is typically related to tasks, recognition of accomplishments, disciplinary measures, or strategy. Bottom-up communication usually involves employee concerns, suggestions, and progress reports.

Effective vertical communication is associated with commitment to the organization and identifying as a member of the organization rather than a member of a certain profession (Bartels et al, 2010; Postmes et al, 2001). When employees and supervisors have face-to-face conversations, they are more likely to form trusting relationships, which positively affects job performance and job satisfaction (Dănești-Pătrău, 2011). Seeger and Ulmer (2003) emphasize that vertical communication allows leaders to maintain awareness of core operations and major processes of various departments. This becomes more important in larger organizations, where leaders cannot directly supervise all employees. If employees do not report what is happening at their level to managers, managers may then make uninformed decisions that could be detrimental to the company. Vertical communication is associated with the channels of communication in a hierarchical structure. This type of communication follows the established channels depending on how strictly the hierarchy is followed.

2.1.4 Hierarchical Relationships

An organization's hierarchy is the system of relative authority among members. Groups with steep hierarchies have more asymmetry in power, status, and influence among members, while groups with flatter hierarchies are more equal (Anderson, & Brown, 2010). Hierarchies can be formally delineated, or they can emerge informally "when differences in status and influence naturally develop among peers working together" (para. 9). In any form, however, the steepness of the hierarchy affects how a group functions. Anderson and Brown (2010) determined five factors that influence the appropriate level of steepness of an organization's hierarchy: the type of task on which the group is working, whether the right individuals have been selected as leaders, how the possession of power affects leaders' psychology, whether the hierarchy impedes intra-group coordination, and whether the hierarchy dampens members' attitudes and motivation.

The disproportionate control provided by steeper hierarchical structures helps groups make decisions in a timely manner, since only one person or a small group needs to agree on the decision; therefore, meritocratic hierarchies, where the most competent individuals are given higher rank, are more likely to be successful (Anderson, & Brown, 2010). Additionally, groups that reward contributions such as "expending effort for the group or providing expertise to fellow members" compel members to exhibit such behavior and contribute to collective success (para. 17).

Flatter hierarchies are better-suited for tasks that require communication among members with a diverse range of perspectives, while steeper hierarchies are more effective for simple tasks. Shaw (1964) identified an experimental relationship between centralized communication

structures and performance. He compared a four-person “wheel” communication structure, where members had to direct all communication through one central individual who could communicate with all others, to a “comcon” structure, where all members could communicate freely. The wheel structure represents a steep hierarchy, while the comcon structure reflects a flatter hierarchy. For simple tasks, such as determining which symbol appeared on all group members’ cards, the wheel structure led to faster solutions than the comcon structure 78% of the time and fewer errors 90% of the time. For complex tasks, such as sentence construction problems, the comcon structure led to faster solutions than the wheel structure 100% of the time and fewer errors 60% of the time. Thus, flatter hierarchies, where members can communicate more freely without the restraints of rank, are more effective for solving complex problems that require input from a range of members (Anderson, & Brown, 2010). While flatter hierarchies often take more time to reach a decision due to the collaborative nature, the ideas of a broader range of employees are considered.

Hierarchies, particularly steep hierarchies, inherently place some individuals at a lower or higher position than others. This can impede motivation, because individuals in lower positions tend to have reduced self-perception while simultaneously holding highly-positive perceptions of higher-ranking individuals’ competence (Van Vugt, 2006; Anderson, & Brown, 2010). Additionally, individuals with lower rank may feel undervalued by the group and can therefore be less motivated to contribute (Anderson, & Brown, 2010). To minimize the effect of rank inequity on group success, organizations with steep hierarchies can work to improve procedural fairness. Procedures refer to decisions and the allocation of resources within an organization. They are perceived as fair when they are applied consistently to all individuals, when they occur without regard for the self-interest of higher-ranking individuals, and when they allow members to communicate their opinions as part of the decision-making process. These conditions promote cooperation among members in an organization, even when steep hierarchical structures exist.

2.1.5 Result of Communication Failures

The impact of insufficient communication practices on a company’s future is best illustrated through case studies on struggling or failed companies. An example of the damage that inadequate communication and management’s dishonesty can inflict on a company is the case of Enron, which was originally founded as a natural gas trading company but quickly expanded into other sectors (Seeger & Ulner, 2003). Their rapid expansion and outstanding quarterly reports gave investors confidence in the company and resulted in the stock price rising significantly. Seeger and Ulner (2003) highlight the role of communication in Enron’s demise through their definition of a leader’s three core responsibilities: “communicating appropriate values to create a moral climate, maintaining adequate communication to be informed of organizational operations, and maintaining openness to signs of problems” (p. 59). First, Enron’s management was not forthcoming or honest about their business strategies and company development plans. Management lied to both employees and shareholders, claiming there were no issues within the company and falsifying quarterly reports. Second, management did not communicate decisions or the reasoning behind them to the rest of the company. This lack of vertical communication left employees with no sense of direction about the future of the company and reduced morale. Third, management ignored all issues presented to them from within the company. When employees noticed issues were arising in the company, the employees presented them to management. Management did not listen to the employees’

concerns and continued forward, turning a blind eye. Management felt as though transferring their debt to non-operational subsidiaries and falsifying their expected earnings was the best way to cope with internal issues. Once these practices had been discovered, Enron quickly fell apart. If Enron's management had emphasized transparency and integrity in its internal operations, been open to hearing about problems and addressing them as they arose, and clearly shared their strategies and goals within the company, they may have avoided failure. These communication responsibilities are a major component of expanding and sustaining an organization.

2.2 Communication in Freight Logistics

To develop a solution for a communication challenge in a freight logistics company, it is important to understand the goals of the company. The ultimate goal for any freight transportation company is to safely deliver goods or products to customers in a manner that results in the highest profit margin (Wood, Barone, Murphey, & Daniel, 2002). To achieve this, a freight transportation company must operate as efficiently as possible. This is evidenced in TransNamib's (2017) stated purpose which includes "regaining market share through improved delivery" and optimizing its infrastructure (para. 14).

In general, the efficiency of a company can be measured by comparing the company's outputs to its inputs (BBC, 2014). Efficiency is derived from the employee's skill, the quality of available equipment, and the management of the workforce. The company's efficiency is a defining factor that results in the success or failure of a company. For transportation companies, inefficiency is often a result of inadequate communication (Kaye, 2010). Lapses in internal communication are commonly caused by information barriers, missing or wrongly-prepared documents, and improper shipment routing. As a result, "inadequate communication can create unnecessary delays and expense", which are damaging to the whole company as they negatively affect efficiency (Kaye, 2010, para. 1; BBC, 2014).

According to Vielhaber (2015), internal communication in transportation companies is a crucial factor when trying to simultaneously reduce costs and increase efficiency. Vielhaber suggests that the first step of an optimization effort in a transportation company should be making sure all employees have the ability to access all information pertinent to their jobs. Therefore, a review of data exchange (e.g. phone, email, fax, etc.) is recommended to see if it is effective in relaying information. However, many logistics companies that try to implement change overlook the importance of communication. Instead, companies often hire an analyst to reduce costs and increase efficiency or invest in the newest logistics technology, expecting to reach their optimization goals (Vielhaber, 2015).

2.3 TransNamib Holdings Limited

TransNamib was established in 1998 with the National Transport Services Holding Company Act to provide transportation services to the nation and its industries. In 2002, TransNamib became a parastatal company, meaning the Government of the Republic of Namibia owns all shares and appoints the directors. In this configuration, the company still operates similarly to a private company, but the budget and financial decisions are governed by the appointed board (TransNamib, 2017). Services provided by TransNamib consist of freight, passenger, road, and container transportation. TransNamib's mission is "to provide total logistics solutions in rail and road transport through a passion for excellence".

95% of revenue is generated through bulk freight and container goods. Bulk freight is the only service TransNamib provides that has experienced financial growth during the past two years, through servicing customers in industries such as agriculture, mining, building material, heavy industry, and fuel and liquids (TransNamib, 2017). The majority of all cargo is transported between Windhoek, Walvis Bay, the South African border, and the Angolan border. Altogether, the railway network covers over 2,680 kilometers (1,665 miles). TransNamib has a fleet of 71 locomotives, 1658 wagons, 74 passenger coaches, 51 cabooses, and over 811 passenger vehicles and heavy trucks. The company's total assets increased in 2017 with the purchase of new locomotives and rail car tankers (Michael Feldmann, personal communication, January 30, 2018; TransNamib, 2017).

Currently, TransNamib has approximately 1,400 employees, who are considered the most important resource to advance and reach the company's goals (Michael Feldmann, personal communication, January 30, 2018). The company consists of many departments as seen in Figure 3.



Figure 3: *Departments within TransNamib.*

Half of all employees work in Operations, Engineering, and Commercial and Marketing. These three departments handle the logistics of the rail and road network throughout Namibia. Operations dictates which trains and cars need to go where based on customer requests from the commercial and marketing department. Engineering and Technical Services maintains and refurbishes the locomotive and wagon fleet to ensure safe movement of passengers and bulk goods. Commercial & Marketing concentrates on the needs of existing customers in addition to expanding their customer base by seeking opportunities in new markets.

TransNamib's total revenue was N\$460 million (US\$39.5 million) in 2017. It has increased in recent years; however, the profit has failed to increase. This is due to the climb of

operating costs since 2015, as seen in Figure 4. These operating costs include the cost of fuel and the infrastructure maintenance. Because of this steady increase in operating costs without a sufficient increase in revenue, the profit of the company is falling. The inability to recover revenue is in part due to customers preferring other road transportation companies, reducing TransNamib’s share in the transportation market.

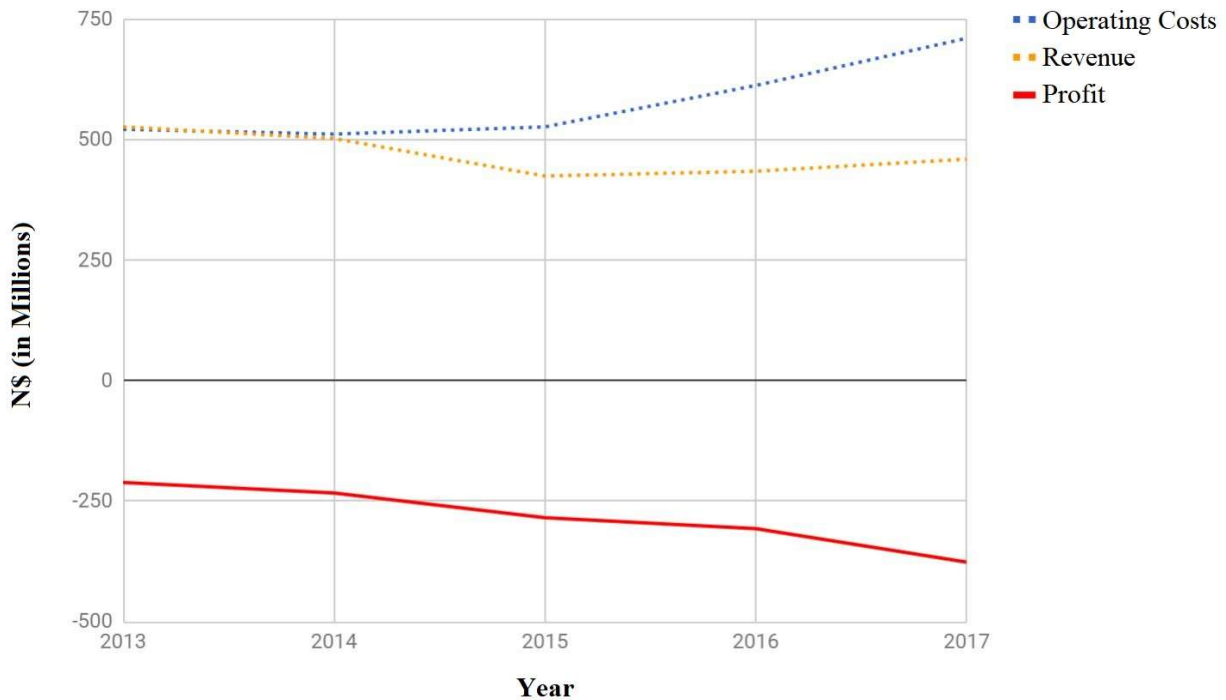


Figure 4: *TransNamib’s Revenue, Operating Costs, and Profit 2013-2017* (TransNamib, 2017).

TransNamib has been experiencing many challenges (Michael Feldmann, personal communication, January 30, 2018). These include high operating expenses, insufficient funding for railway maintenance, constraints in customer service delivery, aging and unreliable equipment, and a country-wide economic recession. The age of employees at TransNamib also presents a challenge. Most of the employees who work for the company are between the ages of 50 and 60 (TransNamib, 2017). Compounding the problem, TransNamib is only hiring from within the company to reduce payroll costs. No new employees are coming in to the company to bring in fresh ideas and energy. A lot of the work done at TransNamib, especially in the Marshalling Yard, involves physical labor. Younger employees would be better suited for this physical labor but TransNamib’s financial situation restricts who they can hire (TransNamib employee, personal communication, March 2018). Another issue with this demographic is that the retirement age for TransNamib employees is 60 years old, or 55 years old for train drivers. Many key employees within the company will soon be retiring with no replacements to train. This may result in the loss of job-specific information pertinent to completing the tasks of a certain position.

Namibia’s plan for the future, entitled “Vision 2030”, sets development goals for the country, and its parastatals, to achieve by the year 2030. For TransNamib, these goals focus on improving customer services, organizational excellence, and financial performance. TransNamib has hired a new CEO, Johnny Smith, who has more than 25 years of experience in

telecommunications and the transportation industry (Brandt, 2018). Smith plans to optimize the company's performance by restructuring the company and only using the existing infrastructure to do so. This will allow TransNamib to limit spending and be resourceful. Smith also set a goal for the company to increase from 1.5 megatonnes (1.7 million tons) transported annually to 3 megatonnes (3.6 million tons). This is a large increase for the company, but the existing infrastructure is capable of supporting this quantity; the previous annual tonnage was 4 megatonnes (4.4 million tons) before Namibia's independence. The tonnage dropped considerably with independence because there was previously a bill in place that required 30% of all freight to be transported by rail if the rail was alongside a road (Michael Feldmann, personal communication, March 2018). This gave TransNamib a solidified client pool, as it was required by law for a certain number of companies to use them. This, paired with the South African Military transporting equipment using TransNamib, created a lot of business. With independence, the bill was repealed, the South African occupation forces were no longer operational in Namibia, and private trucking companies started taking clients from TransNamib. However, there are new mines opening in Namibia that may require freight transportation; this is a large customer expansion opportunity for TransNamib (2017). These changes could turn TransNamib into a major transportation power for the continent.

2.4 Prior Efforts to Resolve Communication Issues in TransNamib

A past Interactive Qualifying Project (IQP), entitled *Laying the tracks for soft skill development at TransNamib*, aimed to improve how TransNamib employees work together by analyzing the soft skills and making recommendations based on their findings (Frigo, Mattesen, Rigney, & Shea, 2017). In order to analyze the state of TransNamib's soft-skill communication, the researchers first observed the company's operations. To gain the trust of the employees, the researchers used interviews and job shadowing to build relationships with employees and to assess the state of interpersonal communication in the company. This trust between the IQP students and employees was essential because it achieved open and honest communication about personal subjects (Michael Feldman, personal communication, January 29, 2018). Through this observation and shadowing, the IQP team was able to gather information regarding the culture of the company and the way employees interact and communicate with one another.

The IQP team discovered that soft skills within the company needed improvement (Frigo, Mattesen, Rigney, & Shea, 2017). They also discovered low employee motivation and insufficient communication practices. After analyzing these findings, the team suggested the implementation of a mentoring program, an incentive program, and instructional rounds. A mentoring program would pair new or inexperienced employees with a more experienced employee to better understand the job and what exactly needs to be accomplished on a daily, weekly, and/or monthly basis. The proposed incentive program would encourage employees to reach certain levels of performance, with the theory that rewarding employees for exceptional work can create a sense of motivation and drive. The proposed instructional rounds would have a similar effect to the mentoring program; however, they would be conducted in a formal, classroom-like setting. Together, these proposed programs aimed to encourage an environment for employees to operate without hesitation, always knowing what to do, when to do it, and how to effectively communicate to accomplish their objectives. These proposed solutions have so far either not worked, or have never been implemented (Michael Feldmann, personal communication, January 30, 2018).

2.5 Summary

Communication is essential for successful company operation. The company's culture both contributes to and is influenced by the communication practices and hierarchical structures. Due to the demands for efficiency and speed in the operations of freight logistics, clear communication is especially important. In addition to technical skills, TransNamib has begun to explore the importance of interpersonal skills and the need to implement programs for individual soft skill development. However, continued analysis of company-wide communication patterns and their impacts on operations are still needed. In the next chapter, we explain how we identified ways to improve communication among TransNamib's managers and employees.

Chapter 3: Methodology

Our goal was to create an action plan to improve intra-company communication at TransNamib Holdings Limited. To achieve this goal, our objectives were to:

- Identify the company culture,
- Determine the communication practices, and
- Identify the impacts and context of communication practices.

In this chapter, we explain the methods that we used to achieve our objectives and develop an action plan to alleviate intra-company communication challenges at TransNamib.

3.1 Data Collection

We used three methods to obtain qualitative and quantitative data on communication practices and company culture at TransNamib: semi-structured interviews, informal questioning, and observations.

We used semi-structured interviews to learn about the company culture and the communication practices at TransNamib. To get a company-wide view, we interviewed employees from the four departments of TransNamib that are essential to freight transportation. The four departments were Operations, Commercial & Marketing, Engineering, and Human Resources (TransNamib, 2017). According to internal documents from TransNamib, there are five employee level types, ranging from E, which includes Executive Directors, to A, which includes General Workers; the specific job titles vary across departments. Our Project Liaison, Michael Feldmann, gave us a list of department managers (rather than a full list of all employees due to the size of the company). From there, we asked managers for a list of employees that work under their supervision. These lists included employees from Headquarters, the Windhoek Marshalling Yard, the Locomotive Depot, the Windhoek Container Facility (WINCON), and the Automotive Depot. From each department list, we selected a range of employees from different hierarchical levels to obtain a representative sample with diverse perspectives. Altogether, we interviewed 30 TransNamib employees.

Typically, two team members conducted each interview, allowing us to avoid overwhelming the interviewee and making it possible to speak with more employees. One team member was the interviewer and the other the note taker. For the convenience of the employees, we conducted interviews in each workplace (Headquarters, Marshalling Yard, Locomotive Depot, Automotive Depot, or WINCON). We began each interview with our Institutional Review Board (IRB) approved confidentiality statement in order to obtain consent and inform the employees that their responses and participation are confidential. We then explained that we were conducting a project looking into communication methods at TransNamib and that we were talking with a variety of employees.

Due to the semi-structured nature of the interview, the team member in the role of interviewer could modify the phrasing and order of questions based on the participant's job title and responses. When possible, we began each interview with general small talk to get to know the employees on a more personal level. These introductory questions included where the

employees were from, what languages they speak, and why they chose TransNamib as an employer. The next few questions focused on position and job history, asking what their role in the company is, any previous positions held at TransNamib or at a different company, and how long they had worked for TransNamib. Following this, we asked questions regarding communication practices at TransNamib and how communication relates to the employee's job. However, some interviewees led the conversation from the start, so we would get into the communication-specific questions very quickly. The questions involved how and with whom the employees communicate, how they learn their daily tasks, which departments they collaborate with, and whether they see a need for change in communication practices.

Once we determined broad communication challenges, we began asking more focused questions. These included questions like whether management communicated effectively with general workers, whether general workers had the opportunity to express their concerns and ideas, whether TransNamib's departments communicated effectively with each other, whether employees felt recognized for their work, and what the state of employee morale was. The majority of these topics were covered in the interviews; however, a negative aspect of this approach was that we were not able to gather the same information from each interview. Despite this, the approach provided valuable insight into company culture, communication practices, and relationships between departments.

We used informal questioning to connect with employees and understand their perspectives and opinions about TransNamib. This method differed from interviews in that it was not formally scheduled, but instead occurred whenever employees were available and willing to talk. Many of the questions were similar to those used in semi-structured interviews. We became acquainted with employees on a personal level by starting with casual conversations about where employees are from, what languages they speak, and how long they have worked at TransNamib. By establishing this trust, we hoped the employees would be more likely to open up to us and talk about information and opinions regarding communication practices. These conversations occurred throughout the workday. Conversations were unstructured and covered day-to-day routines, communication habits in the workplace, and any other topics that arose. Before the informal questioning started, we asked permission from the employee to take notes while we spoke and read our confidentiality statement. One or two team members had a notebook on hand, taking notes on relevant information while the employee spoke.

Observations took place whenever we were able to sit in on meetings and during our visits to the Marshalling Yard and WINCON. During observations, two to four of us were present. At least one team member was taking notes; however, we usually had two or more note takers to provide a broader perspective of the situation. The identities of all employees are confidential; we strictly recorded the general themes, shared documents, and key events. We collected data on the communication habits of workers and supervisors, allowing us to identify existing communication patterns in the workforce of TransNamib. By observing employee interactions, we were able to identify communication patterns that we did not learn about in interviews or informal questioning.

The data from interviews, informal questioning, and observations were the result of our perceptions of communication and employee responses, and they only covered select employees, departments, and locations within TransNamib. Therefore, it is possible that we missed important narratives that may exist in other departments or locations of TransNamib. Additionally, it is inevitable that our presence in meetings and other interactions changed the way that employees behaved in some way. It is also possible that during interviews, employees

omitted or exaggerated certain information. However, we attempted to build trusting relationships with employees and emphasize confidentiality as much as possible to minimize the impact of our presence.

3.2 Data Analysis

By analyzing the information that we collected in the semi-structured interviews, informal questioning, and observations, we found trends in opinions among employees. This analysis yielded results helpful to achieving our objectives.

We began this analysis by transcribing all interview, informal questioning, and observation data in individual documents, each tied to the employees (for our reference purposes). From there, we analyzed each transcript by looking for key phrases and common themes about the company culture and communication practices. This information included the employees’ opinions of the culture, existing communication practices, and which communication practices need to be improved. This qualitative approach allowed us to take into account the thoughts and opinions of all employees with whom we interacted.

To back up these qualitative data, we created quantitative evidence by coding the interview, informal questioning, and observation transcripts for repeated phrases and concepts. From this, we calculated ratios of how many employees shared a certain opinion. We also calculated the percentage of employees interviewed in a specific department and in a specific location that shared a certain opinion. This process can be seen in Table 1. We used three different notations for identifying common opinions; “Yes, issues exist”, “No, issues do not exist”, and “Not Applicable, the interviewee did not mention the issue”. Due to the semi-structured nature of interviews, not every question topic was brought up in every interview; therefore, the sample size of employees interviewed about each topic varied. Another drawback to this method is the limited number of people we interviewed, as a larger sample size across all departments and locations would provide more representative information. We took this into consideration, but we have found through our analysis that employees of similar occupation in a department tend to share opinions about the subjects of communication and culture within the company.

Table 1: *Sample of the data coding for top-down communication.*

Top-Down Communication		Percentage	Operations	Marketing & Sales	Engineering	HR/Training
Issues exist	23/30	76.67%	80.00%	0.00%	80.00%	75.00%
Issues do not exist	3/30	10.00%	0.00%	100.00%	10.00%	25.00%
Not mentioned	4/30	13.33%	20.00%	0.00%	10.00%	0.00%
Percentage "Yes" of those who mentioned issues		88.46%				
SAMPLE SIZE		26/30				

We used the coded interview and observation data, along with an understanding of the hierarchical distinctions in the company, to categorize the culture of TransNamib into the four orientations (Group, Developmental, Rational, and Hierarchical) explained in Section 2.2.1. We reviewed interview transcripts and counted the number of responses that aligned with or contradicted each orientation. For example, frustration with the lack of training and personal development opportunities would be ‘-1’ for the Group orientation. The distinction between

formal and informal communication also contributed to our understanding of company culture. Adhering to formal communication channels, for example by reporting a problem to one’s supervisor who then reports the information to their supervisor, would count as a ‘+1’ for the Hierarchical orientation.

Table 2 shows an excerpt of the analysis, with each column representing an orientation and each row representing an interview. While the process of determining which orientation employee responses align with is subjective, this analysis allowed us to determine a quantitative rank of how prominent each orientation within TransNamib. We then converted the final totals of each orientation into a percentage. Furthermore, we found that if the final tally for an orientation was changed by ± 1 , its final percentage would vary by less than 1%. For this reason, we argue this method of outlining the company’s cultural profile, although subjective, was accurate. With these rankings, we developed a cultural profile of TransNamib. This profile influenced our recommendations by providing a visual representation of cultural imbalances with the company. Our recommendations were developed with the goal of creating a more balanced cultural profile.

Table 2: *Method of determining cultural profile.*

Employee	Group	Developmental	Hierarchical	Rational
A	0	2	5	-2
B	-1	0	3	0
C	1	0	0	2
D	-2	0	5	-1
E	-3	-1	2	0
F	-3	-2	1	1
G	0	3	2	0

Using semi-structured interviews and observations, we were also able to identify the communication practices of employees and departments. Communication practices are broken down into methods and patterns. Methods are ways to communicate (e.g. phone call, WhatsApp, face-to-face conversation, scheduled meeting) and patterns relate to how frequently information is communicated. We determined the communication practices used for various purposes throughout the workplace, including collaborating with other departments, receiving daily tasks, and establishing weekly sales targets.

To better understand the full impact of communication at TransNamib, we reviewed our coded interview and observation data. We looked for communication practices that, according to employees, had a positive impact. This included practices that encourage employee feedback and produce an overall feeling of employee satisfaction in the workplace. We highlighted these practices in our recommendations and suggested that TransNamib continue or expand these practices to other departments. We also looked for communication practices that have a negative impact. This included departments not receiving important information and employees not receiving updates about the company’s performance and future. We gathered evidence of the effects of these practices (e.g. late deliveries and low employee morale) through employee speculation corroborated with company documents and our own coded interview and observation

data. This analysis yielded a link between communication and tangible outcomes. Providing evidence of the effect of communication on company operations supports the need for the recommendations in our action plan.

TransNamib has many departments and operates in the broader economic and political context of Namibia. Therefore, we recognize that the challenges they face are multidimensional and cannot always be attributed solely to communication practices. As such, we collected information about the relationships between departments and the influences of external factors on company operations during informal questioning and interviews. With this information, we developed a series of flow diagrams to describe the full context of key situations that involve multiple internal and external factors. The diagrams include boxes to represent departments, blue arrows between boxes to illustrate information flow between departments, curved arrows to illustrate the influence of another department, and dotted arrows to illustrate the influence of external factors. These flow diagrams helped us illustrate the full complexity of the interdepartmental interaction and challenges faced by TransNamib.

Through these methods of data collection and analysis, we obtained our results from which we crafted our recommendations and action plan.

Chapter 4: Results

In this chapter, we discuss our findings from semi-structured interviews, informal questioning sessions, and observations. Each method generated information with overlapping themes related to TransNamib's culture and communication practices, as well as the impact and context of the communication practices. Our findings combine quantitative and qualitative data from our methods. We interviewed a total of 30 TransNamib employees, from general workers to executives from Operations, Engineering, Commercial & Marketing, and Human Resources stationed at Headquarters, the Marshalling Yard, the Locomotive Depot, the Automotive Depot, and WINCON. However, each interview did not cover every topic, so the sample sizes for questions vary. We observed communication practices in each of those locations, as well as during the interdepartmental 'Mondays @3' meeting at Headquarters.

4.1 Objective 1: Culture of TransNamib

In the data we transcribed, we found definitive features of the work culture at TransNamib. Based on Anderson & Brown's (2010) definitions, as we discussed in section 2.2.4, TransNamib can be categorized as an organization with a steep hierarchy. There is an asymmetry in power and influence among employees at TransNamib. We found that communication patterns follow the formalized hierarchical structure, and that there is widespread awareness of who ranks above or below whom. In interviews, 15 employees mentioned that to communicate upwards in the hierarchy, they will contact their supervisor, who will then contact his or her supervisor; this structure is rarely broken. Additionally, if the person they are trying to contact is unavailable, they will attempt to contact the next person down in the hierarchy until they can reach someone. This communication is almost always job related and formal, meaning that it follows the hierarchical structures mandated by TransNamib. We observed the use of the term 'subordinate' to describe employees who hold a lower job title. While observing in both the main office and the workshops, we noticed that employees use terms such as "Boss", "Chief" (e.g. Chief of Engineering), "Sup" (Supervisor) in conversation to refer to each other by their respective job titles or relative positions.

We learned in interviews and observed in day-to-day communication at TransNamib that Afrikaans and English are the main languages. We only spoke with employees who knew English; however, we were told the only employees who do not speak English work in the Locomotive Depot and the Marshalling Yard. Due to the range of employees of different hierarchical levels with whom we spoke in those locations, we feel the results are representative of those who do not speak English. We learned in interviews that since English has only been taught in Namibian schools for around 25 years, some of the older generation is more comfortable speaking Afrikaans but still understands English. Other common languages include Oshiwambo, Damara, and Otjiherero. We observed that these languages are used for casual conversations or for job-related communication in small groups but were told in interviews that meetings and official correspondence occur in English.

24 of the 27 employees (89%) who discussed the topic expressed optimism about the future of TransNamib under the leadership of the new CEO, Johny Smith. Mr. Smith, who started at TransNamib in February of 2018, has visited various TransNamib depots around Namibia and had personal conversations with employees. Employees we interviewed were

appreciative that the new CEO took time to visit the various depots and locations of TransNamib. 15 employees expressed that being able to meet and speak with the CEO was uplifting to morale and gave them hope for the future of the company. Many employees thought that he is taking on a challenging role but felt that Mr. Smith’s background in the transport industry, including as former CEO of the Walvis Bay Corridor Group, would be beneficial for leading TransNamib.

During interviews, we asked employees about their favorite part of their job and found that TransNamib employees generally enjoy the work that they do. Common responses from employees in the Locomotive and Automotive Depots included working with their hands and the sense of pride that comes from fixing machines. Common responses from employees in the main office included how each day brings something new and the sense of pride that comes from overcoming challenges. Many TransNamib employees have worked with the company for decades and, in many cases, for their entire career. Among the employees we interviewed, the average length that they have worked at TransNamib was over 22 years. Many employees described knowing their colleagues on a personal level after working together for so many years.

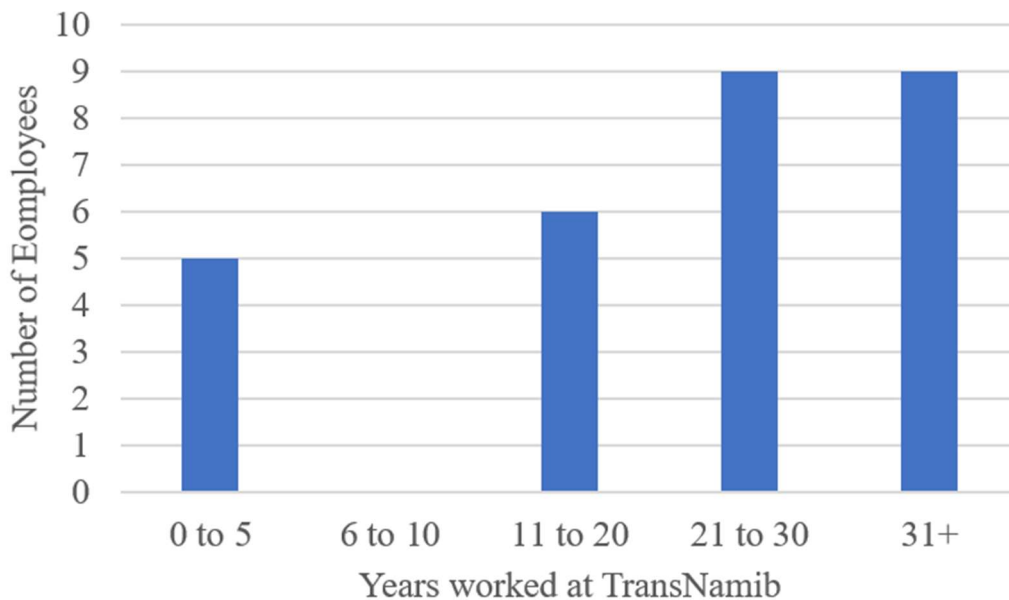


Figure 5: *Graph of time working at TransNamib of employees interviewed.*

With many long-term employees, there is a significant amount of expertise at TransNamib. Many supervisors and managers who we interviewed began their careers at TransNamib in entry-level positions and worked their way up. These employees talked about how this experience helps them understand the nuances of their department’s work. One employee told us that general workers are more comfortable communicating concerns and feedback to a particular manager who had risen through the ranks than to managers hired from the outside. The employee then explained that general workers felt this comfort because the manager who rose through the ranks had a better understanding of what was going on outside of Headquarters, despite the hierarchical difference.

Due to the company’s recent financial situation, employees have been encouraged to take voluntary retirement, which begins at age 50 for Train Drivers and age 55 for all other

employees. This, along with conventional retirement, has contributed to a loss of expertise in certain departments. When employees retire, there is not a company-wide standard method for ensuring that their knowledge is transferred to the rest of the department or to their respective replacement. Additionally, there is a 30% vacancy rate throughout the company. 18 of the 21 employees (86%) who mentioned manpower expressed that it negatively impacts the day-to-day operations of their department. Sometimes, supervisors must take on some of the work of general workers since positions are vacant.

The vacancy rate, the need to work overtime, TransNamib's financial state, and lack of vertical communication contribute to low employee morale. 15 of the 17 employees (88%) who discussed morale stated it was low. Employees feel they are often overworked, and sometimes must take on additional responsibility due to vacancies in their departments. We were told that employees are often resistant to accept tasks that fall outside of their job description. Employees conveyed their uncertainty about the financial future of the company and how it would impact their job. The feeling of uncertainty caused employee morale to decrease.

Low employee morale can also be attributed to a lack of employee recognition. During interviews in which we discussed recognition, 14 of the 22 employees (64%) stated that they did not feel recognized for their contributions or achievements. For example, even if an employee has worked with TransNamib for 30 years, they will likely receive no formal recognition from the company. Additionally, many employees discussed with us how their expertise and experience were often not recognized. They felt that this was evident in day-to-day interactions with supervisors and the lack of a recognition system. Employees expressed to us that if supervisors simply said 'please' and 'thank you' more often when assigning tasks, employees would feel more respected. Employees also told us in interviews there used to be recognition programs in some departments. For example, the company used to provide a certificate of recognition when an employee reached a milestone of employment time. This recognition system ended and left employees feeling as though their dedication went unrecognized. Despite the lack of recognition, most employees we interviewed are still passionate about their work. One employee in the Locomotive Depot said they do not mind the lack of recognition because of the satisfaction received from doing their job, although it would be nice to be recognized for their work.

With the information we gathered on employee morale and company culture, we analyzed how TransNamib fits each of the four culture orientations that we discussed in section 2.2.1. To summarize, group culture is flexible and internally focused with the purpose of employee maintenance so that there is cohesiveness, trust, and a sense of belonging (Denison & Spreitzer, 1991). Developmental culture is flexible and externally focused with the purpose of adaptability so that there is growth and creativity. Hierarchical culture is controlled and internally focused with the purpose of executing regulations so that there is security, order, and rules. Rational culture is controlled and externally focused with the purpose of attaining well-defined objectives so that there is competition and success. Each of the culture orientations are represented at TransNamib; however, some orientations are more pervasive than others. To determine the relative percentages of each orientation at TransNamib, we reviewed interview transcripts and counted anecdotes that either aligned with (+1) or contradicted (-1) each orientation. Then, we divided these numbers by the number of interviewees to determine an average mention count for each orientation. With this relationship, we assigned the percentages that can be seen in Figure 6, overleaf.

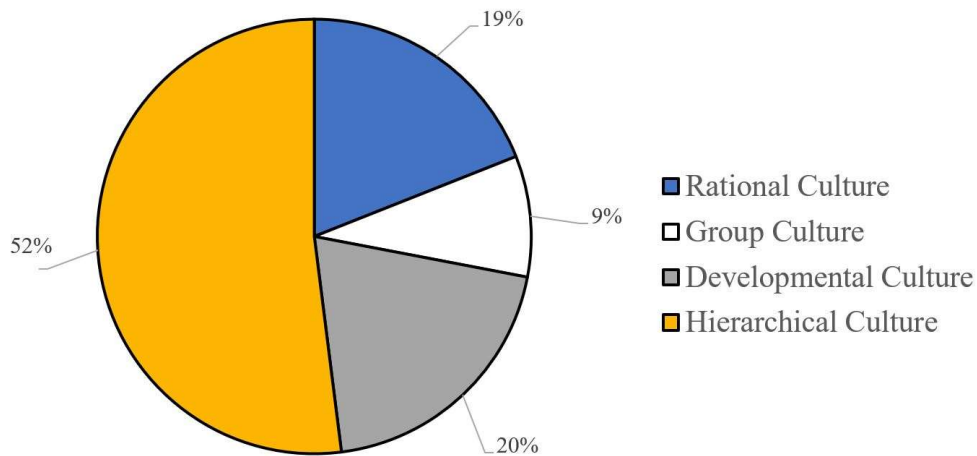


Figure 6: *Chart of culture orientation percentages calculated from data.*

The relationship of these cultures is illustrated in TransNamib’s cultural profile, as seen in Figure 7. Hierarchical culture is the dominant orientation as the company follows a controlled and rigid structure. We determined that Group and Developmental culture, which rely on how flexible a company is, have low percentages that are below the ideal profile. TransNamib’s Rational culture is also below the ideal profile due to the fact that employees expressed their frustration with insufficient interdepartmental communication and the lack of top down communication, which we discuss in the following section.

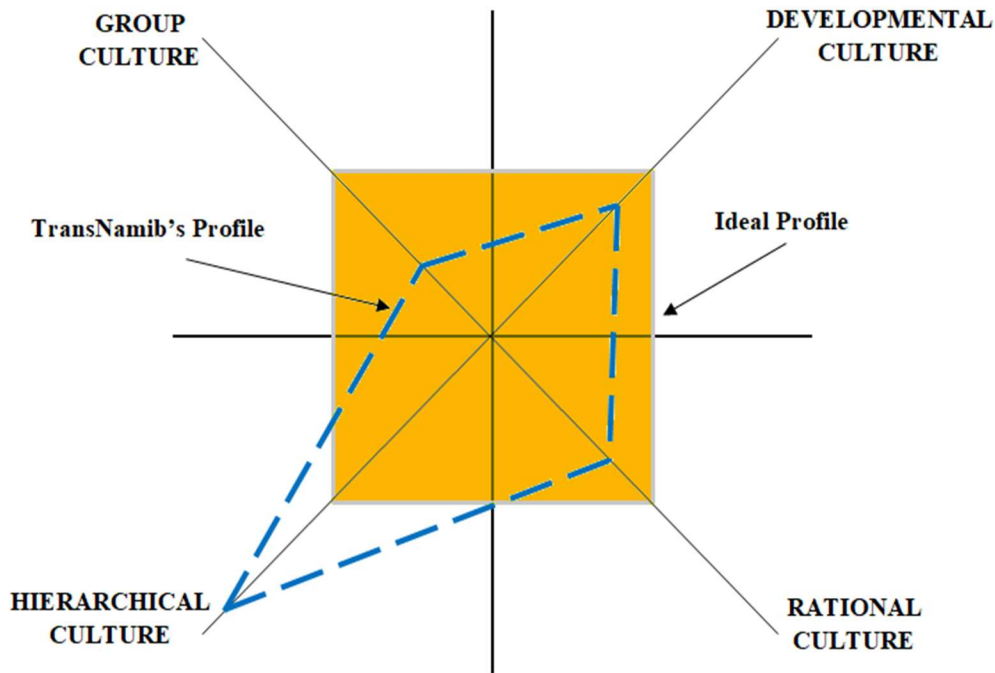


Figure 7: *Profile of TransNamib’s culture.*

4.2 Objective 2: Communication Practices at TransNamib

We identified the major communication practices at TransNamib through our interviews, observations, informal questioning, and data analysis. In this section, we describe these practices and the areas where our research indicated there could be improvements. The communication practices we found were used for contact between colleagues, planning company functions, and collaborating with other departments.

Through observations, we noticed that all employees use cell phones to communicate with their colleagues. In our interviews, 100% of all managers, supervisors, and executives said they are in multiple WhatsApp Messenger groups. These groups are within departments or between multiple departments, depending on the group's purpose. An employee explained that TransNamib uses WhatsApp because it functions well despite the cellular service limitations of the various regions where TransNamib employees work. We observed that employees in a management position receive multiple phone calls a day relating to the day's freight operations. Email is also used to share more detailed information than what can be relayed by phone. Throughout the different locations, there are company-wide memos posted so that all employees can view them. Although it was not a specific question we asked, seven employees stated that they prefer to visit colleagues' offices versus sending an email or text message.

During interviews, 13 of the 27 employees (48%) who discussed the topic expressed that there are some commonly used communication methods that are ineffective. Although it was not a specific question we asked, a few employees were frustrated with the amount of paperwork, memos, and files they must deal with on a day-to-day basis. 9 employees expressed in interviews that an online method for sharing and storing information would save time and reduce errors.

The majority of TransNamib's task planning takes place during daily morning meetings or through email and phone calls. Many departments must collaborate to build a daily Train Plan that ensures complete, accurate, and timely deliveries. To build Operations' Train Plan, a Train Planner calls each depot every morning to determine how many wagons are available for each route. The information that is collected for the Train Plan is handwritten into a paper form and then typed and emailed out to the other Train Planners, so they can ensure that there are enough wagons for that day. It is also sent in a WhatsApp message to Executives. Other than the WhatsApp group chat and email history, there is no electronic system for managing the daily schedule. The paperwork is left in a large stack on the Train Planner's desk. Furthermore, this information collected by the Train Planners is compiled into Operation's daily locomotive schedule.

Train availability also depends on Engineering's progress on inspections and repairs for the locomotives, which is detailed in the Daily Stop List. This document is distributed by Engineering in the morning and afternoon so that all departments are aware of which locomotives are undergoing repairs and which are available. To create Engineering's Daily Stoplist, the Chief of Locomotive Maintenance meets with the Technical Supervisors to review depot reports, equipment that requires attention, and which locomotives are undergoing scheduled inspections

To facilitate task planning and train scheduling, Engineering, Operations, and Commercial & Marketing all build a weekly performance 'Dashboard'. The performance Dashboard is a Microsoft Excel file created by Commercial & Marketing containing information about weekly performance against sales targets. It is broken down by revenue from freight, passenger service, and TransNamib properties. Freight performance is also divided into

individual sectors, like mining, containers, and bulk fuel. This document is created using customer invoices, so there is sometimes a delay in displaying which goods have been moved if the invoices have not yet been processed. The Dashboard is reviewed by all departments during Mondays @ 3.

Employees from Operations told us they rely on Engineering and Commercial & Marketing to know how many locomotives are running, how many wagons are available, and where products need to go in order to operate effectively. Employees from Commercial & Marketing told us that all they need from Engineering and Operation is how many locomotives are running, how much manpower is available to complete the job, and how deliveries compare to weekly sales targets in order to operate effectively. Employees from Engineering told us they only need to know how many locomotives and wagons are needed for the daily schedule.

As another method of interdepartmental communication, TransNamib's middle management holds 'Mondays @ 3' meetings during which they review the prior week's performance in terms of revenue and transported volumes. This is typically attended by representatives from Operations, Engineering, Finances, and Commercial & Marketing, but all departments are invited. We found that Mondays @ 3 were unproductive. We learned that Mondays @ 3 was originally devised as a meeting for middle management to share information but not make decisions. We observed that the meeting was not well attended and not all of the departments listed in the agenda were present. As the attending employees shared their weekly updates, we noticed that there was little connection between each department's presentations. The meeting began with a review of the prior week's performance and then transitioned to department updates. While this went smoothly, it was evident that many of the attending employees were not attentive, as they were looking at their phones or laptops. An open discussion followed each update and the meeting closed with a sentiment of subdued indignation after a discussion over the purpose of Mondays @ 3. As several employees had reported prior to the meeting, much of the meeting involved employees subtly blaming each other without anyone openly accepting responsibility for setbacks TransNamib was experiencing. Furthermore, we observed that some employees were unwilling to accept criticism. Finally, although some attendees were taking their own notes, there was not a designated secretary or notetaker to record minutes. Therefore, it is unclear how discussions and actionable items from the Mondays @ 3 meetings are shared with employees who were not in attendance.

TransNamib has several other methods in place to facilitate communication between departments throughout the week. Every Wednesday, all of the executives gather together for 'ExComm meetings', where we were told that they discuss strategic plans and share ideas. There are also several documents which pass between departments including an Irregularity Report and a statistics report from Operations. The Irregularity Report focuses on incidents of train tardiness, mechanical failures, accidents, etc. This is circulated between all department executives. The statistics document is a daily email report that compiles information from the Irregularity Report, Train Plan, and manpower availability. It shows how each day's performance varied from the plan and, when possible, explains why.

As we examined communication practices, we discovered several areas for improvement. Our predominant concern was a breakdown in vertical communication, specifically regarding top-down messages explaining management decisions. Of the 26 employees who discussed the topic, 23 (88%) felt that top-down communication was a problem. This was primarily a concern in Operations and Engineering. Several employees remarked that they did not feel as though they were notified of management's decisions or their reasoning. Although it was not a specific

question that we asked, 3 employees mentioned learning about decisions of the company from the media before hearing about it at work. We learned that management does not typically acknowledge these news reports or explain the situation to the general workforce. Employees told us that this lack of communication causes them to lose trust in management and feel uncertain about the direction and operation of the company.

19 of the 22 employees (86%) who mentioned interdepartmental communication noted that it was ineffective. For example, we found that Commercial & Marketing does not always communicate ahead of time with Engineering and Operations to know what the company can provide to customers in terms of locomotives or wagons. We also found that the well-intentioned weekly Dashboards produced by Operations and Commercial & Marketing can be confusing and overwhelming. In speaking with employees, we found that when someone receives a Dashboard or the statistics document, they often do not give it much attention. During interviews, the employees claimed that there is far too much information in these documents and that they would prefer to not spend time sifting through them to find information that is relevant to their job. We heard from supervisors and managers that if the documents contained only information relevant to their departments' functions then the Dashboards and statistics would be much more valuable. For instance, the performance Dashboard is broken down by sector and the company's top 20 customers. While this is useful information for determining the sectors in which TransNamib is underperforming, it is most important that each department is generally aware of the cumulative performance. If, for example, Commercial & Marketing is interested in how much volume a specific customer moved in the prior week, then that information is available. However, this information is buried amongst other statistics. This is likely the reason employees mentioned ignoring the Dashboard and statistics document.

In addition to the top-down communication challenges, 10 of the 22 employees (45%) who discussed bottom-up communication felt that it was unsatisfactory. This sentiment is found throughout the entire company, with 6 of 14 employees (64%) from the Marshalling Yard, WINCON, and the Automotive Depot and 4 of 8 employees (50%) from Headquarters. Many employees mentioned feeling comfortable giving feedback to their supervisors, but 10 employees felt as though their feedback did not result in changes. This was particularly evident with employees in the Engineering department, who desperately needed new parts to get the roughly 40 non-operational locomotives running again (personal communication, 2018). While the lack of new parts is likely a result of TransNamib's financial struggles, employees still felt that repairing these locomotives would be imperative to achieving the company's goals. Many of them expressed frustration that they were not receiving feedback from management about their needs. As another example, we heard from several employees that they needed additional employees to help balance their workload, but management had been unresponsive to their requests. This is partially a result of TransNamib's steep hierarchy. While some of these concerns would be addressed by improved top-down communication, the fact remains that the appropriate communication channels do not exist for getting general workers' ideas, concerns, and frustrations to the right people.

4.3 Objective 3: Impact and Context of Communication Practices

Horizontal, vertical, and interdepartmental communication within TransNamib are all conducive to the timely and cohesive operation of the company. We have found that there is not a significant amount of horizontal communication occurring at TransNamib. This is evidenced by the lack of teamwork in the company which, as we discussed in section 4.1, contributes to TransNamib's Group orientation only comprising 9% of their overall culture. 19 of the 22 employees (86%) who discussed the topic mentioned issues in interdepartmental communication. 25 of the 30 employees (83%) mentioned issues in vertical communication. At TransNamib, both top-down and bottom-up communication have their issues, but a higher percentage (88%) of employees responded that they felt there were issues with top-down communication, compared to 45% of employees who felt there were issues in bottom-up communication.

The specific top-down vertical communication challenge we found was with management relaying decisions. We learned in interviews in which the topic was discussed that 23 of the 26 employees (88%) feel uninformed about these decisions, leading to a feeling of uncertainty about the next steps the company will take. It has also been reported that some employees feel that when management does communicate decisions, there is little explanation as to why they were made. When a decision is announced, and a manager needs to relay it to employees, the manager may find it difficult to back the decision if no explanation was provided. This negatively affects both the manager and the employees, as they both feel as though they are being led blindly. This poor communication and justification of decisions causes distrust and frustration with management.

Bottom-up communication flows strictly through the hierarchical channels. As a result, the daily relay of information can be stopped if one person in the chain does not want the information to proceed, or if he or she is unable to pass along the message. We found that the subjects of this type of communication can involve feedback, recommendations, or a need for more equipment. When talking to employees at Headquarters, we heard that they generally felt comfortable speaking to supervisors and executives. Employees claimed that communication channels were clearly defined and there was often a timely response. In contrast, the yard workers we spoke with felt that there was never a response even though there were channels to communicate upwards. 5 yard workers reported having ideas to address TransNamib's challenges which they had expressed to managers, supervisors, and executives, only to never hear back. Employees told us that this left the yard workers feeling helpless and unmotivated. Also, because management did not fulfill requests for new parts, the workers have had to cannibalize some locomotives to find spare parts. Employees speculated that this could be a symptom of the financial constraints the company is facing because there may be no budget for new parts. Employees expressed that if management discussed the proposed ideas and fixes with the workers experiencing the issues first hand, perhaps a better solution could be achieved that satisfies the needs and constraints of all parties.

We learned from our interviews and observations that there are disconnections between departments. First, there are issues in communication between Commercial & Marketing, Operations, and Engineering. Employees state that these three departments must operate together to deliver all freight in a satisfactory manner for the customer.

The delivery process starts with the needs of the customer, which determine where the trains need to go, what cargo they need to carry, and when they need to arrive. This is drafted into a contract by Commercial & Marketing, and a Weekly Sales Plan is developed. The Weekly

Sales Plan is then sent to Operations, who develops a Train Plan to reflect the needs of the customer. The Train Plan contains information derived from the locomotive and wagon availability at the relevant depots throughout Namibia. The Train Plan is communicated to Shunters who build the train, and the Train Drivers who drive the train to its location. For the Train Plan to be completed, Operations must receive information from Engineering. The information from Engineering contains which locomotives are running and which wagons are available based on the availability of parts and manpower, dictated by the budget. Once the Train Plan has been executed, Commercial & Marketing compiles the Weekly Performance Dashboard which summarizes what has been delivered in the past week and whether or not customer contracts were fulfilled. Figure 8 illustrates the current communication channels between these three departments used to develop the daily and weekly locomotive schedules. It also includes other internal and external factors that influence this interdepartmental interaction.

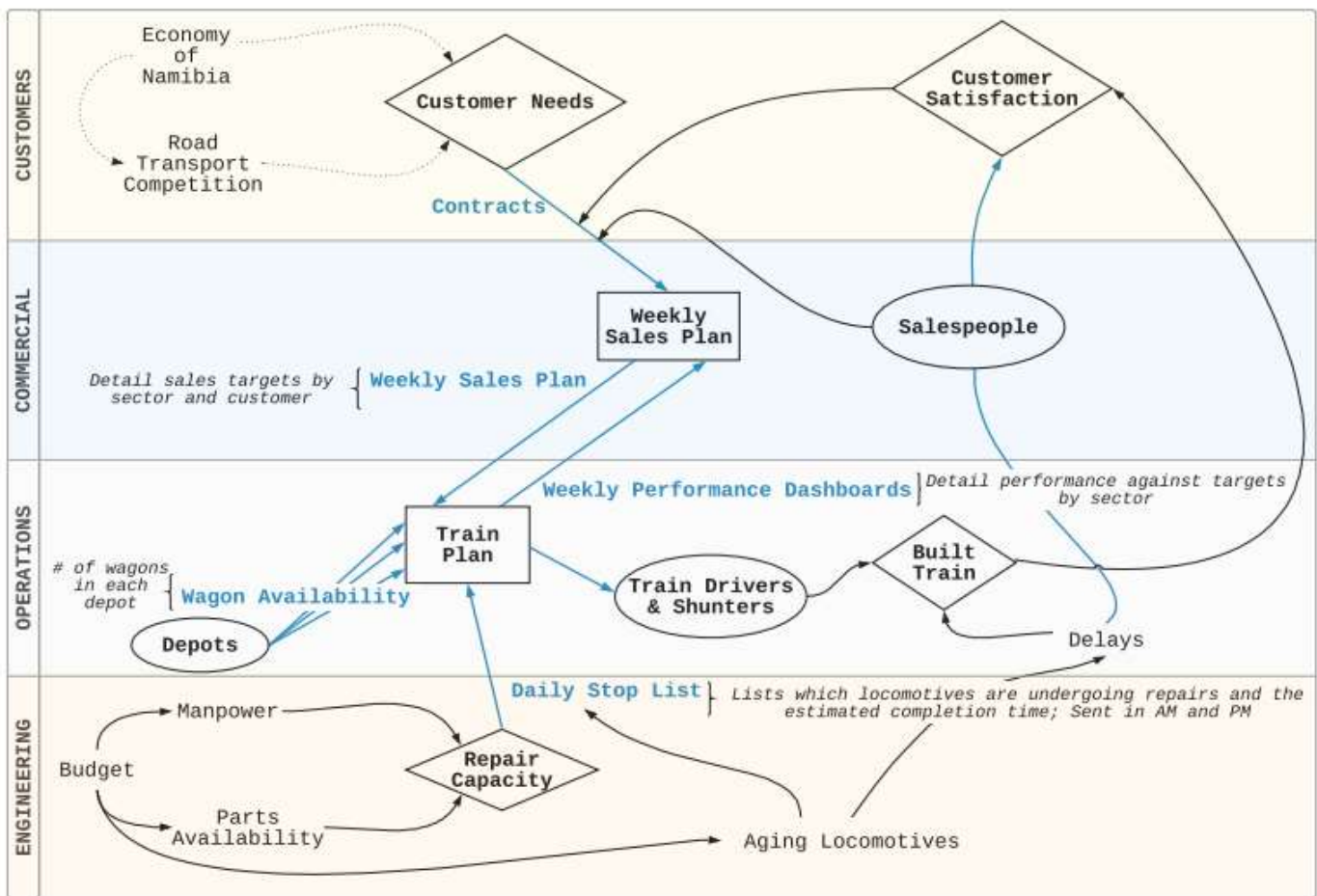


Figure 8: Locomotive scheduling process.

When these departments are not communicating effectively, trains can be sent to their destination with the wrong wagons attached or with wagons missing. When these situations occur, the needs of the customer may not be fulfilled, even though a contract has been signed. An arbitrary example of this is: Commercial & Marketing may sign a contract with a client,

requiring 4 locomotives and 40 wagons; however, Operations and Engineering only have 3 locomotives and 30 wagons available. This lack of availability can result in the contract being delayed or lost entirely. This can occur when either Commercial & Marketing does not check locomotive and wagon availability or when Operations and Engineering do not report the correct number of locomotives and wagons available. We learned in interviews that data regarding wagon availability can sometimes be misreported due to human error in the manual recording process. We also discovered that to report availability information, an overly-detailed packet is given to Commercial & Marketing. This packet consists of all necessary information, as well as pages of unrelated information that is not necessary for Commercial & Marketing’s tasks. In interviews, some employees within Commercial & Marketing reported they would prefer a more straightforward method of communicating the locomotive and wagon availability as well as the manpower available for each day.

While it was not a specific question we asked, 7 employees expressed that the annual training plans do not adequately incorporate department input. TransNamib publishes training plans on yearly cycles, starting in April and finishing in October. The plans are developed by Human Resources, based on department input gathered at the beginning of every year. Departments request training based on what skills their employees have and what additional skills would be useful. The Chief Training Officers submit the detailed Training Plans (including a breakdown of how many employees should attend each session, the total cost, and the rationale for including each session) to the HR Executive and the CEO for approval. Often, only key training modules are approved, while the rest are cut due to budget restrictions. These key modules typically include Train Driver refresher courses, since they allow TransNamib to ensure customers that their goods will continue to be transported safely. The elimination of training modules influences the following year’s training needs. Figure 9 illustrates the interdepartmental interactions and internal factors that influence the development of the training plans.

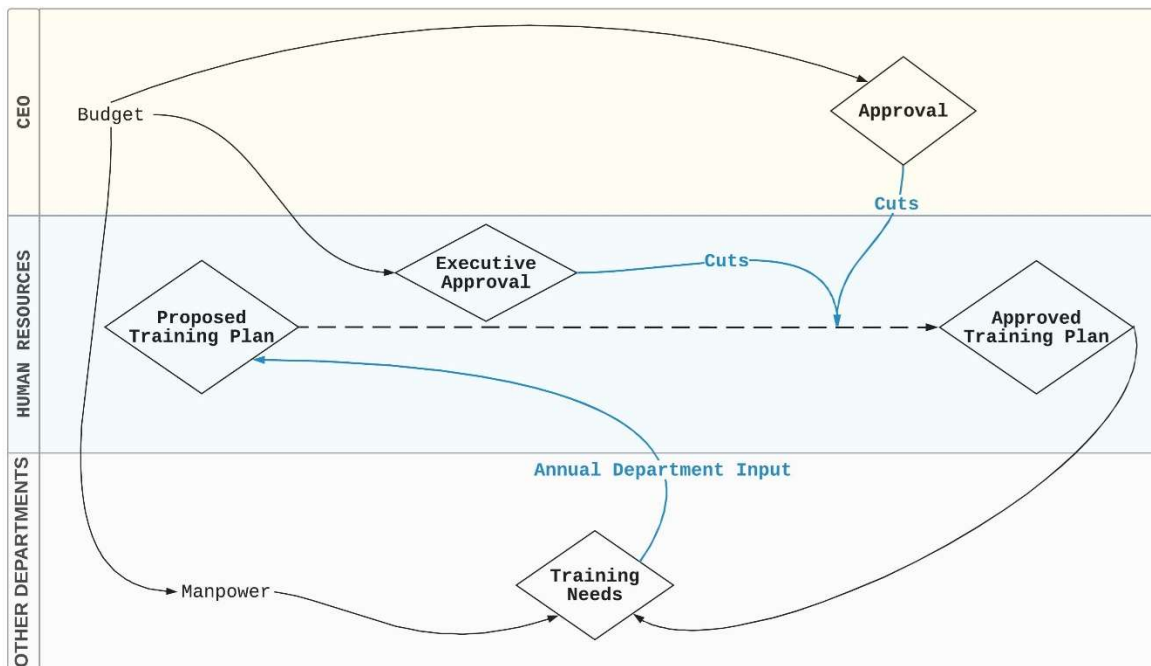


Figure 9: Development of annual training plan.

As illustrated, HR seeks departmental input to develop the annual plans, but sometimes financial constraints lead to components being cut. Despite their requests, many employees felt that their departments' training needs were simply ignored, rather than cut due to financial constraints. Not receiving the training that was requested impacts the day-to-day operations of departments and the professional growth of employees.

4.4 Findings Outside the Scope of Communication

While conducting our interviews and observations, we found several issues that should be addressed that are outside of the scope of our project. These issues are related to demographics and the size of TransNamib's workforce.

A common theme for areas of improvement was succession planning. Half of TransNamib employees are older than 50. Retirement for Train Drivers starts at 55 and for all other employees at 60, while voluntary retirement begins at age 50 and 55, respectively. There is an urgent need to transfer knowledge and experience from these employees to their replacements. WINCON has an unofficial succession planning system, but no other department does. Internal documents from TransNamib indicate that management has continually requested to address this concern. However, little action has been taken.

We found that TransNamib has a 30% vacancy rate, which is not necessarily an issue in and of itself, but rather could be a sign that company's organizational design is outdated and ineffective. In the past, TransNamib had more business (4 megatonnes shipped yearly compared to the 1.5 megatonnes they transported in 2017 (personal communication, 2018)), which required a lot of manpower. Many employees we talked to, especially in the Operations department, felt there are many unnecessary empty job positions, and the manpower they have right now is more than enough to complete the tasks at hand. In the specific case of Operations, there are about 400 employees, and 300 vacancies; however, the department feels they have plenty of employees to meet the needs of customers. Restructuring certain departments and adjusting the duties of various job positions could alleviate discontinuities in the hierarchical structure and excessive hours, improving TransNamib's efficiency.

4.5 Summary

TransNamib's culture can be classified by its rigid hierarchical structure, departmental divisions, low employee morale, and passion for the work despite deep frustrations of the context in which employees operate. We found that current communication methods were sufficient, however, the information, patterns, and channels were not. We discovered that the full context of decisions is not always understood by every department. We found that the impact of communication at TransNamib was frustrated employees, disconnected departments, and unclear objectives.

Chapter 5: Recommendations & Conclusions

We developed recommendations to alleviate the internal communication challenges that we found at TransNamib. Our recommendations include a centralized Information Management System (IMS), a company-wide newsletter, quarterly depot visits, and a revised Mondays @ 3 structure. A centralized IMS will foster effective interdepartmental communication. A company-wide newsletter will provide thorough and frequent top-down communication and employee recognition. Quarterly management visits to depots around Namibia will encourage more frequent vertical communication. A revised Mondays @ 3 structure will improve the effectiveness of interdepartmental collaboration. We also recommend ways to address certain issues that we found that are outside the scope of our project such as succession planning, training strategies, and job restructuring. In this chapter, we explain our recommendations and provide supporting evidence.

5.1 Interdepartmental Communication

To help address the interdepartmental communication challenges we found, TransNamib's Dashboard, statistics, train planning, and daily stop list sharing procedures should be revised. To do so, we recommend an Information Management System that is set up in the following way: a main page with a summary of pertinent information displayed from each department, and a different page for each department displaying all information and statistics. To construct our demonstrative version, as seen in Figure 10, we only included Operations, Engineering, and Commercial & Marketing, since these three departments share information on a daily basis.

Commercial & Marketing											
Weekly Revenue (NS)			Top 20 (NS)			Notes:					
Total Freight Revenue:	7,477,580		Total Freight Revenue:	7,065,834							
% Variation from Target	-21%		% Variation from Target	-17%							
Customer Needs											
Customer	Commodity	Origin	Destination	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Whale Rock Cement	Clinker	Walvis Bay	Otjiwarongo	22	0	43	12	52	18	9	
DB Schenker Namibia, N	Containers, 18 T	Walvis Bay	Windhoek								
Sanzi Import & Export	Containers	Walvis Bay	Oshikango								
Engineering											
Locomotives Daily Stoplist											
Engine #		Reason				Release Date					
6		53 Annual, T2601				13/4/2018					
30		6 Monthly, late T2601				???					
459		Monthly				9/4/2018					
464		D3&5, hot suspension bearings				11/4/2018					
Operations											
Depot Quick Stats											
Western Region			Northern Region			Central Region			Southern Region		
Location	Wagon Type	Number Empty	Location	Wagon Type	Number Empty	Location	Wagon Type	Number Empty	Location	Wagon Type	Number Empty
WALVIS BAY	OPEN TOP WA	118	TSB	OPEN TOP WA	99	WHK	OPEN TOP WA	34	MARIENTAL	OPEN TOP WA	7
WALVIS BAY	FUEL TANKER	20	TSB	ACID WAGON	7	WHK	CONTAINERS	34	K'HOOP	OPEN TOP WA	13
WALVIS BAY	CONTAINERS	99	OTT	OPEN TOP WA	21	WHK	GRAIN WAGO	9			
WALVIS BAY	GRAIN WAGO	64	OTT	FUEL TANKER	7	PURITY	OPEN TOP WA	14			

Figure 10: Example Information Management System summary page for Operations, Engineering, and Commercial & Marketing.

The main summary page should only contain the information each department needs most in an easy to interpret interface. A system set up in this manner allows for employees to see the information most pertinent to their needs by simply viewing the main page. Having a separate page for each department also allows departments to organize all information on a uniform platform. By separating excess information from the most essential information for daily operations, information sharing within the company should become more streamlined and cause less frustration.

This IMS would mainly be used by executives, managers, and supervisors. These employees have access to computers and would not need additional technology for the implementation of the IMS. The information in this system could then be relayed to general workers (who are without computer access) by their supervisors. This would be the same way that information is already shared, since we did not find communication between supervisors and general workers to be an issue.

The implementation of an IMS would have to be a slow process. We recommend this because multiple employees described the company as ‘rigid’ and ‘resistant to change’ (personal communications, April 2018). By introducing the full IMS all at once, employees may be reluctant to use the new system. The system would have to be implemented in stages, with each iteration containing more information and being more advanced than the previous. To start, we built a demo using Google Sheets, which is a platform for sharing information instantaneously and collaboratively through the Internet. The first sheet would display a summary of each department, and the following sheets would be dedicated to more detailed information for each department. To protect the sheet from accidental deletions, the I.T. department can make specific sheets or ranges non-editable or only editable by specific users. Furthermore, only employees with approved email addresses will have access to the document so the information will be secure.

Once this spreadsheet is adopted, a more customizable and comprehensive platform could be developed with the same functionality but as its own dedicated software. To construct this software, a study would need to be conducted, interviewing every department (not only Engineering, Operations, and Commercial & Marketing) to determine their individual needs. This software could be built by a software developer or perhaps as a single or multi-year WPI Major Qualifying Project (MQP). Going through a software development company would be relatively expensive, however, using students to build an IMS could be more cost effective.

In addition, we found insufficient interdepartmental interaction and communication in face-to-face meetings. To address this, we recommend revising the purpose and structure of Mondays @ 3. We heard from several employees that Mondays @ 3 was ineffective due to poor attendance, an unwillingness to accept responsibility for issues, and a lack of actionable solutions. Therefore, we recommend the following changes:

- The meeting should begin as usual by sharing the prior week’s performance in terms of revenue and shipment volumes as well as how last week’s action items impacted performance.
- Following this, attending members should discuss how to improve on the prior week by determining why TransNamib’s performance was either positive or negative.
- Those in attendance should serve as a representative for their department or work group. On a weekly basis, these representatives should be responsible for meeting with their constituents and updating them about potential solutions that were discussed.

- Each representative should prepare a short statement that includes one way in which their department performed well and one way in which it did not. This could help address the concerns we heard about employees not taking responsibility for their work or that employees could not take criticism.
- Once the causes of TransNamib's weekly performance are determined, all attending members should decide upon a solution that can be implemented within TransNamib's limitations. If the solution is outside these limitations, it should be brought to ExComm for further discussion.
- Every meeting should have a designated secretary who is responsible for recording meeting minutes. The minutes should include discussion points as well as a summary of the action items agreed upon by the end of the meeting. After the meeting, the secretary should format the minutes and email a PDF to all attendees, as well as all supervisors, managers, and executives.
- Attendance at the meeting should be mandatory for each department's representative. Any absences must be submitted to the chairperson 48 hours in advance, barring personal emergencies.
- Lastly, the meeting should happen at least once a week. If the meeting is cancelled, it should be moved to Tuesday or at the latest, Friday if no one's schedule aligns.

This revision of Mondays @ 3 would allow the company to develop and act upon ideas and solutions. This may also help improve TransNamib's Group and Rational cultural orientations. The meetings could provide employees with a sense of cohesiveness and improve the company's focus on goals that are representative of the company as a whole. Furthermore, this recommendation expands upon a practice already in place, so the resource demand would be relatively low. A weekly collaborative interdepartmental meeting focused on producing solutions could improve TransNamib's performance.

5.2 Vertical Communication and Employee Recognition

To address TransNamib's challenges with vertical communication and employee recognition, we recommend the implementation of a monthly newsletter. An example of this can be seen in Figure 11, overleaf. There are two key sections of the newsletter that could address the employee concerns that were brought to our attention during interviews. The first section will discuss the future of the company. This would clearly explain the strategic vision of the company alongside management's major decisions. It would also be an appropriate space for management to respond to or preempt news reports about TransNamib. Our study showed that 15 of 18 employees (83%) interviewed in the Marshalling Yard, Automotive Depot, and WINCON felt as though they were not informed of management's plans for TransNamib. Having a brief, monthly update on what management has been doing with explanations would help alleviate the disconnect between the top and bottom of TransNamib's hierarchical structure. The second section of the newsletter should recognize the achievements of TransNamib's employees. Milestones such as five-year work anniversaries would be acknowledged in the newsletter. Whether an employee has been with the company for five or thirty years, company-wide recognition could boost the morale of those employees. In past recognition attempts at TransNamib, the deliverable could sometimes be late. We found this made the employees feel undervalued. By having the newsletter sent out on a regular basis, the recognition should never

be late, assuming all submissions are on time. The newsletter will also introduce new employees with details about where they are from, what their job is, and a few ‘fun facts’. This would help develop a more welcoming atmosphere throughout the company.

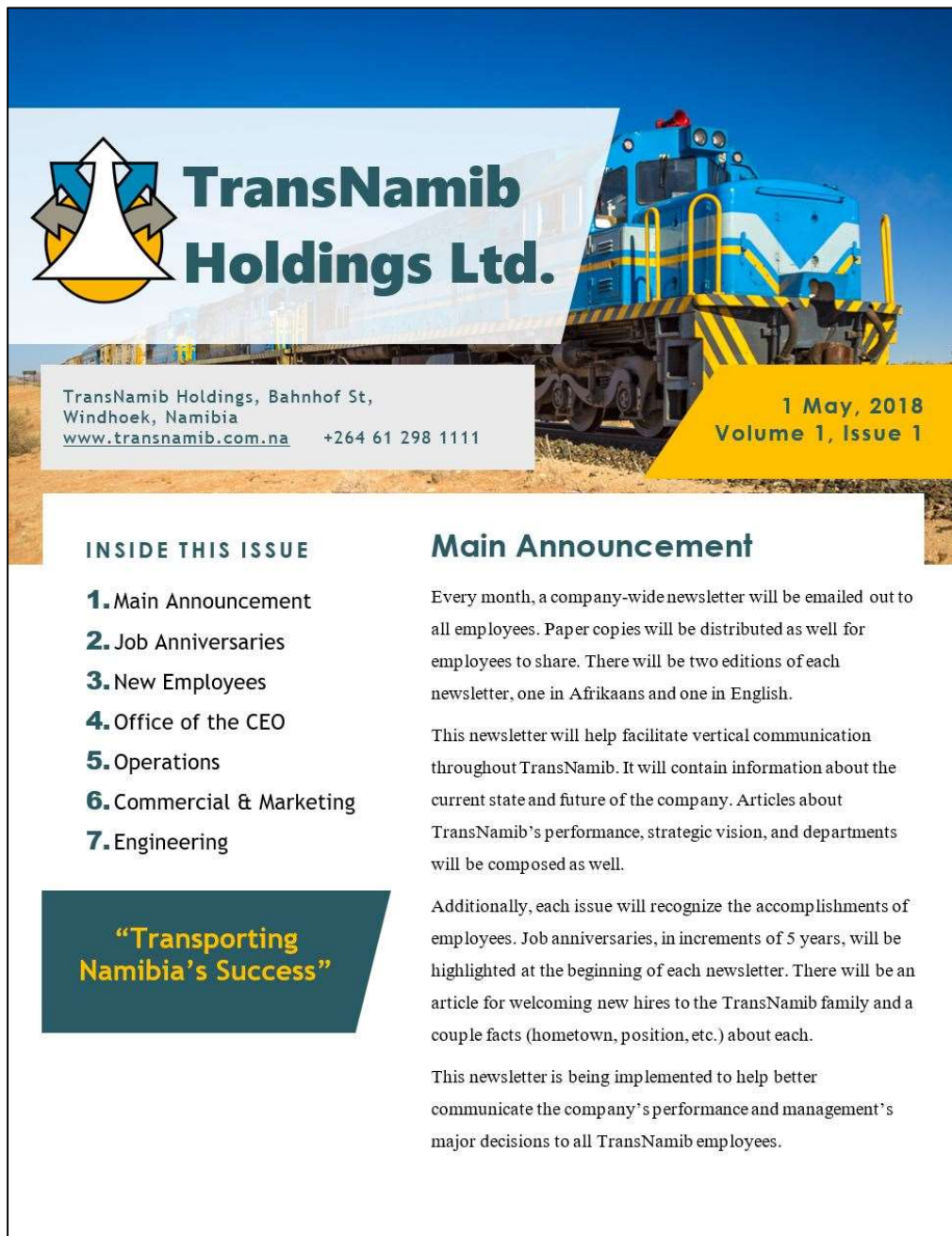


Figure 11: *Example newsletter cover page.*

The newsletter should be distributed and posted throughout the company so that all employees have the opportunity to see it. The newspaper should be in English because it is the most common language spoken and read at TransNamib (Michael Feldmann, personal communication, April 2018). If possible, it should also be translated to Afrikaans. It should also

contain images and easy-to-interpret figures for ease of reading. If an employee is mentioned in the newsletter, TransNamib should ensure that they are given copies to keep. We believe the company-wide newsletter will address the roughly 88% of interviewees who responded that morale was low, as well as the 64% who did not feel recognized for their work. This will also begin to resolve the nearly 88% of employees interviewed who felt top-down communication was an issue. Having a workforce that is fully versed in the overarching goals of the company is critical to the spirit, vision, and, ultimately, success of the company. The newsletter is our least resource-intensive recommendation. It would require a representative from each department to create content. Then, perhaps a collaborative team with employees from Information and Communication Technology and Human Resources could compile the newsletter. TransNamib should also ensure that the newsletter is posted every month by managers in every depot in Namibia. Overall, it would not require significant financial or personnel investments. Because of this, we encourage implementing the newsletter as soon as possible.

As another way to address employees who felt vertical communication was insufficient and who did not feel recognized, we recommend mandating quarterly management visits with yard workers throughout Namibia. These meetings could follow a rotating schedule where at least one manager or executive from each department visits a depot during every quarter. A single manager or executive would not need to make a visit every quarter. However, it is necessary that every depot is visited at the same frequency. One employee told us that TransNamib has depots that have not been visited by management from Headquarters in over five years. While visiting these locations may require substantial resources due to the geographic distance, management must interact closely with the employees they manage. These meetings can be used as an opportunity for management to announce and explain their decisions as well as convey the broad goals of the company. However, we believe it is most important that these meetings be used as a time to actively listen to the yard workers. Yard workers can share their feedback and ideas, allowing management to better see the impact of their decisions. We recognize that mandating quarterly meetings with yard workers is resource-intensive but we are confident that they provide significant value.

5.3 Addressing Findings Outside our Scope

While conducting our interviews and observations, we found several issues that need addressing but are not within the scope of our project. We recommend the creation of future projects to examine and address the following issues.

We recommend examining the succession process at the Windhoek Container Facility, WINCON, as they have been independently running their own training to ensure continuous operation. At WINCON, when an employee is a year or two from retirement, an apprentice is assigned to him or her. This apprentice shadows the worker about to retire, learning everything needed to get the job done firsthand. This way, there is no loss in knowledge between the retiring employee and their replacement. This process could be expanded to other departments and locations. However, it requires openness about when employees plan to retire and sufficient manpower to assign an appropriate replacement.

We recommend that TransNamib revises current training methods and allocates more resources towards professional development for employees. While this type of training is often the first to be cut to trim the budget, empowering TransNamib employees to reach their full potential will provide a return on investment and allow the company to grow. In addition, as a

member of the Southern Africa Railways Association (SARA), TransNamib is in the process of adopting SARA recommendations for the 2018-2022 Strategic Plan (personal communication, 2018). This plan seeks to create uniform safety and technical training guidelines for railway stakeholders across the region. SARA performed an audit and identified specific gaps for TransNamib to address before implementing the Strategic Plan. We recommend that TransNamib continues as planned with the steps of reaching these SARA guidelines. This will improve safety and technical training and allow for regional integration.

Because of the outdated structure of the company, we found most employees are reluctant to take on tasks outside of their job description. In some departments, such as Engineering, there is a manpower issue and more employees are needed to complete the work. However, in Operations there is an excess of open job positions yet all of the work is completed. The open positions cause friction between managers and workers because the workers strictly follow the tasks described in their job description. If the jobs available were consolidated and job descriptions were updated, the operation of the company would be streamlined. Employees already have to take on tasks that fall under other job descriptions.

Changing the titles of existing employees and removing excess jobs would cause much less confusion. We recommend that TransNamib launch an industrial engineering project under the guidance of the Organizational Development division within the Human Resources department. This division develops job descriptions and analyzes how various roles interact to achieve the required functions of each department within TransNamib. This project could be carried out by a third-party consulting company or as a WPI MQP. A third-party consulting company would be relatively expensive compared to an MQP.

5.4 Conclusion

Our results are based on 30 interviews and our observations at TransNamib's Headquarters, Marshalling Yard, and Automotive Depot. We found that TransNamib's culture is defined primarily by its steep hierarchical structure. 86% of interviewees remarked that TransNamib's interdepartmental communication has issues that lead to operational errors or inefficiencies. 83% of interviewees mentioned issues related to vertical communication. 88% of interviewees felt that employee morale was low. To address these findings, our action plan includes the following recommendations:

1. Create an Information Management System that allows departments to seamlessly share pertinent information.
2. Revise the Monday @ 3 meeting to increase interdepartmental collaboration effectiveness and create action items every week for company improvement.
3. Develop a monthly newsletter that provides a platform for explaining management decisions, sharing company goals and successes, and celebrating employee achievements.
4. Mandate quarterly management visits with yard workers to allow for improved bottom-up and top-down communication.

Due to TransNamib's financial constraints, we recognize that some components of our action plan are not immediately achievable. However, we strongly believe that our findings and action plan will begin to alleviate the internal communication challenges present at TransNamib.

With knowledge of their unique cultural profile, TransNamib can implement further programs to bring the four orientations closer to equilibrium. Our recommendations for revising the Mondays @ 3 procedures can be expanded to existing meetings within TransNamib or used as a template to establish new meetings. Additionally, our approach to quantifying cultural orientations based on interview data can be adapted by other organizations looking to implement changes that fit with or help balance their cultural profile. The revised Mondays @ 3 structure can inspire other multi-departmental companies to improve collaboration and decision-making. The IMS could be adapted and implemented by other multi-departmental companies facing similar issues in information sharing.

Improving TransNamib's internal communication will help the adaptability, operational efficiency, and growth of the company while providing Namibia and the surrounding regions with a more reliable and efficient link to the global economy.

References

- Anderson, C. & Brown, C.E. (2010). The functions and dysfunctions of hierarchy. *Research in Organizational Behavior*, 30(2), 55-89. Retrieved from <https://goo.gl/PoBa18>
- Bartels, J., Peters, O., de Jong, M., Pruyn, A., van der Molen, M. (2010). Horizontal and vertical communication as determinants of professional and organisational identification. *Personnel Review*, 39(2), 210-226.
- BBC. (2014). GCSE Bitesize: Efficiency and productivity. Retrieved February 04, 2018, from <https://goo.gl/7BSuHn>
- Best Strategies: Interdepartmental Communication [Case Study]. (2018, January 24). Retrieved March 26, 2018, from <https://goo.gl/wmutPw>
- Borghans, L., Green, F., & Mayhew, K. (2001). Skills measurement and economic analysis: An introduction. *Oxford Economic Papers*, 53(3), 375-384.
- Brandt, E. (2018, January 5). Smith takes over to turn around struggling TransNamib. Retrieved May 24th, from <https://goo.gl/2nAMSt>
- Buhler, P., & Worden, J. (2013). *Up, Down, and Sideways: High-Impact Verbal Communication for HR Professionals*. Alexandria, VA: Society for Human Resource Management.
- Chomos, S. (2017, March 29). Employee engagement vs, culture survey: knowing which is best for your organisation. Retrieved February 5, 2018, from <https://goo.gl/f854se>
- Craig, W. (2010). What Is Company Culture, and How Do You Change It? Retrieved February 5, 2018, from <https://goo.gl/GkTi75>
- Crosbie, R. (2005). Learning the soft skills of leadership. *Industrial and Commercial Training*, 37(1), 45-51.
- Dăneci-Pătrău, D. (2011). Formal communication in organisation. *Economics, Management, and Financial Markets*, 6(1), 487-497.
- Denison, D., & Spreitzer, G. (1991). Organizational culture and organizational development: competing values approach. *Research in Organizational Change and Development*, 1(5), 1-21.
- Doyle, A. (2017, August 29). What Is Company Culture? Retrieved February 12, 2018, from <https://goo.gl/UhJdDW>

- Frigo, J., Mattesen, A., Rigney, R., & Shea, J. (2017). *Laying the tracks for soft skill development at TransNamib*. (Undergraduate Interactive Qualifying Project E-project-050417-052904). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: <https://goo.gl/fpvBTe>
- Groysberg, B., & Slind, M. (2012). *How trusted leaders use conversation to power their organizations: Talk, Inc*. Boston, MA: Harvard Business Review Press.
- Hes, D. (2017). 5 reasons why soft skills are more important than ever. Retrieved from <https://goo.gl/Fkz131>
- Kaye, S. (2010, July 15). *Freight forwarders: the vital link in logistics communication*. Inbound Logistics. Retrieved from <https://goo.gl/g7QoCw>
- Kim, S., Magnusen, M., & Andrew, D. (2016). Divided we fall: Examining the relationship between horizontal communication and team commitment via team cohesion. *International Journal of Sports Science & Coaching*, 11(5), 625-636.
- Kraut, R., Fish, R., Root, B., & Chalfonte, B. (1992). Informal communication in organizations: Form, function and technology. *Human reactions to technology: Claremont symposium on applied social psychology*, 145-199. Beverly Hills, CA: Sage.
- Nitin, B., & Mamta, B. (2011). *Effective communication and soft skills*. Delhi, India: Pearson India.
- Papa, N. (2017, September 26). *Effective Interdepartmental Communication*. Retrieved from <https://goo.gl/f4QVxi>
- Postmes, T., Tanis, M., & de Wit, B. (2001). Communication and Commitment in Organizations: A Social Identity Approach. *Group Processes & Intergroup Relations*, 4(3), 227-246.
- Relationships Foundation. (2003). Relational Audit Case Study Inter Departmental Synergy. Retrieved from <https://goo.gl/i88Xh5>
- Sawyer, J. (1992). Goal and process clarity: Specification of multiple constructs of role ambiguity and a structural equation model of their antecedents and consequences. *Journal of Applied Psychology*, 77(2), 130-142.
- Seeger, M. W., & Ulmer, R. R. (2003). Explaining Enron. *Management Communication Quarterly*, 17(1), 58-84.
- Shaw, M. E. (1964). Communication networks. *Advances In Experimental Social Psychology* (pp. 111–147). New York: Academic Press.

- Sullivan, P., & Feltz, D. (2003). The Preliminary Development of the Scale for Effective Communication in Team Sports (SECTS). *Journal of Applied Social Psychology, 33*(8), 1693–1715.
- Surbhi, S. (2015, March 27). *Difference between formal and informal communication*. Key Differences. Retrieved from <https://goo.gl/SNP9Mm>
- Van Vugt, M. (2006). Evolutionary origins of leadership and followership. *Personality and Social Psychology Review, 10*(4), 354–371
- Vielhaber, J. (2015). Communication is key when optimizing logistics network. Retrieved from <https://goo.gl/DeJcYd>
- Wood, D., Barone, A., Murphy, P., & Wardlow, D. (2002). *International logistics (2nd ed.)*. New York, NY: AMACOM Books.