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# Key Leadership Skills required for Digital Transformation: A Delphi Study based on Financial Institutions in Namibia

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# Key Leadership Skills required for Digital Transformation: A Delphi Study based on Financial Institutions in Namibia

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**Abstract**
Digital transformation (DT) provides financial institutions with opportunities for growth as well as an expanded reach to a variety of market spaces. One major challenge of DT efforts is the skillset of leaders along with the lack of the commitment to drive the DT initiative. The insufficient digital leadership skills and undefined digital strategies may lead to failed DT and wasted resources. This study followed a Delphi approach to identify the critical skills necessary for leaders in financial service organizations embarking on a DT journey. Based on an initial panel of 10 experts employed in financial institutions in Namibia, the top 3 skills identified pertained to (1) assessing the real benefits of the DT initiative, (2) garnering buy-in from business colleagues for DT initiatives and (3) analysing data for meaningful conclusions. The study also identified ways in which financial institutions can develop skills for DT amongst the leadership teams.

**Keywords:** Digital transformation, digital technologies, soft skills, hard skills, Delphi technique, leadership

## 1 Introduction

The digital era points back to the mid and late 20th century when internet and computers became prominent in global economies (Cherry, 2016). The period between 2007 and 2016, known as the age of expedition, experienced more use of technologies such as Web 2.0, Artificial Intelligence (AI), Internet of things (IoT), machine learning, and wearable devices (Xiang, 2018), a trend that has continued to the present. These continuous innovations that have caused disruptions to business models have made it crucial for traditional financial institutions to embrace digital technologies (Pramanik et al., 2019). Digital transformation (DT) is defined as the organization's ability to generate business value through new business models, improved processes and enhanced customer experience (Horlacher & Hess, 2016b). The implication of Digital Transformation (DT) leads to three major requirements that need to be addressed, these being the development of new skills, new leadership structures, and organizational capabilities (Farahani, et al., 2017). Inasmuch as success of DT primarily relies on leadership, research indicates that there is a lack of digital leadership skills and competencies that align with DT practices (Omar A. El et al., 2016; Fouad A. B. Kazim, 2019). Presently, the development of skills for digital leaders is considered mandatory for DT (Temelkova & Management, 2018).

The definition of a digital leader is not clearly defined in literature although various views are assumed based on understanding of the phenomenon. The former view describes a digital leader as merely a leader of a digital business with specific digital skills while the latter view similar to the scope of this research considers a digital leader as one that has specific digital skills coupled with strategic and business knowledge (Antonopoulou et al., 2021). This study strives to investigate digital skills for

leaders in traditional financial institutions. Although numerous researchers have studied the concept of digital skills (Sousa & Rocha, 2019), there seem to be a lack of coherence between the hard and soft skills necessary for digital transformation leaders. The study aims to address this gap by answering the following descriptive research questions:

**RQ1**: What are the critical skills required for leaders driving DT within financial service organizations?

**RQ 2**: What are the ways in which financial service organizations can develop DT leadership skills?

This paper is further divided into five sections starting with a brief overview of related literature and followed by a section on the research methodology and design. The fourth section contains results of the data collected as well as discussions on the results. Finally, a conclusion is drawn, and future research is recommended.

## 2 Related Literature

Studies prove that successful digital companies show strong leadership capabilities that can drive and envision DT (Zeike et al., 2019). The cross-functional collaboration required by DT demands a hybrid set of digital skills, including individuals with both technical and business skills. Digital skills pertain to competence in searching for and co-creating information using gadgets and social network functions (Khitskov et al., 2017).

### 2.1 Digital Transformation

The term digital transformation (DT) does not have a set definition according to literature and has been used interchangeably with some other commonly used concepts listed in Table 1 (Temelkova & Management, 2018; Hai et al., 2021).

**Table 1: Definitions**

| Term | Definition | References |
|---|---|---|
| Digital transformation | Digital transformation is a continuous process of extending digitalization within an organization. | (Ivan et al., 2019) |
| Digitization | Conversion of analog to digital data.<br>An example of digitization is converting a handwritten text into a digital form. | (Bumann & Peter, 2020) |
| Digitalization | According to Gartner's definition digitalization is the use of digital technologies to transform business models and provide new revenue streams and value producing avenues. | (Bloomberg, 2018) |

## 2.2 Soft skills and hard skills

General skills can be divided into soft and hard skills. Kohlbacher (2017) states that 72% of CEO's believe that soft skills are the primary skills required to deal with the challenges that arise with disruptions caused by megatrends. Moreover, traits like coordinating with others, managing people, and complex problem solving continue to be the top three skills that will remain crucial in the foreseeable future (Kohlbacher, 2017). A soft skill is defined as an interpersonal trait that empowers an individual to interact with others effectively and includes skills like communication, negotiation, problem solving (Mangiza and Brown 2020) . Soft skills make for a good leader and are generally not easily teachable compared to hard skills. On the contrary, hard skills are described as skills that can produce a tangible outcome and are related to the mastery of the sciences, technology and technical skills (Sopa et al., 2020). Additionally, hard skills are considered easily transferrable in comparison to soft skills. Digital leaders should be well-rounded in the acquisition of both hard and soft skills.

## 2.3 Leadership Theory

The leadership theory dates back to the 1950s when the trait theorists studied the characteristics of a successful leader (Gençer & Samur, 2016). In contrast, the behavioral and style theorists focused on studying the behavioral style of leadership. From that various leadership theories have been developed and defined. Literature has found countless leadership definitions over the years (Silva, 2016). Rachinger (2019) defines leadership as a way of influencing other people's actions to propel for desired efforts in order to enact effective performance. The mentioned leadership theories have also been included in digital transformation studies (Sow, 2018). Leadership trait theory as an example relates to distinctive leadership characteristics (Chow et al., 2017). The Behavioural leadership theory on the other hand deals with leadership styles for effective leadership while contingency explains leadership styles based on the leaders, followers, or the situation at hand (Oberer & Erkollar, 2018).

### *2.3.1 Digital Leadership skills*

A few studies have classified leadership skills in categories of Cognitive skills, Business, Interpersonal and Strategic skills (Harder & Narine, 2019; Tiekam, 2019; Kalargyrou et al., 2018; Brown, 2016) based on a theoretical framework called Leadership Skills Strataplex Model (LSSM) (Mumford et al., 2007; Kairys, 2018, Tiekam, 2019). These skills are considered crucial at all levels of the organization making them suitable for DT (Guzmán et al., 2020). Other skills such as technical and transformational leadership skills are equally vital in DT. Transformational leadership skills derived from transformational leadership style encompasses the leaders ability to put their followers' interests first and motivate their employees to rise above self-interest motives (Avolio & Bass, 1995).

Technical skills are key ingredients in a leader's ability to make informed decisions regarding the organization's digital strategic direction. Leaders need an understanding of digital trends to have a forward-looking perspective and make informed decisions. Digital trends refer to a particular behavior in a virtual or digital world (Khitskov, 2017). Table 2 presents a summary of these skills.

**Table 2: Leadership Strataplex Framework (extended from Brown, 2016)**

| Skills Category | Skills |
|---|---|
| **Technical Skills (Enke, 2018)** | Employ Digital Literacy Skills (Enke, 2018)<br>Have Working Knowledge of Emerging Technologies (Valentine & Stewart, 2015), e.g. IOT, Big Data, Artificial Intelligence, Robotics<br>Oversee IT Acquisition, Implementation and Maintenance (Valentine & Stewart, 2015)<br>Provide IT Governance |
| **Cognitive Skills** | Speak Fluently<br>Actively Learn<br>Write Competently<br>Comprehend Diverse Reading Material<br>Think Critically |
| **Business Skills** | Carry Out Operations Analysis<br>Manage Personnel<br>Manage Financial Resources<br>Manage Material Resources<br>Manage Business Processes<br>(Valentine & Stewart, 2015)<br>Exercise Entrepreneurial Flair |
| **Interpersonal Skills** | Be Socially Perceptive<br>Coordinate Activities<br>Negotiate Successfully<br>Persuade |
| **Strategic Skills** | Think Systemically<br>Evaluate Systems<br>Identify Downstream Consequences<br>Identify Root Causes<br>Problem Identification<br>Solution Appraisal |
| **Transformational Leadership Skills (Heuston & Wolf, 2011)** | Inspire a Shared Vision<br>Be a Role Model<br>Challenge Current Processes<br>Enable Others to Act<br>Encourage and Motivate<br>Drive Innovation |

## 3 Research Methodology

The method of study used is the Delphi technique which was selected on basis of the study objective. This technique is useful when trying to gain expert recommendations for a specific problem and provides a sense of anonymity for the participants (Skinner et al., 2015). The data collection method used for this study was surveys and follow up interviews. The surveys were built using a web-based tool called Qualtrics. The Delphi process was divided into three stages, following recommendations for the Delphi technique (Keil et al., 2013). In Phase 1 the participants were requested to suggest digital leadership skills for DT. Phase 2 involved narrowing down the skills that were suggested in phase 1 and the final phase comprised of ranking the skills from phase 2. Lastly, follow up interviews were conducted to address RQ2.

### 3.1 Sample of Population

Participants were selected based on the criteria of experience and knowledge in DT leadership. In the end a total of 10 DT industry experts from different financial service organizations in Namibia were recruited to partake in the study. Each participant had an average of five years' experience in financial service industry involving DT activities (see Table 3). Generally, literature recommends of a sample size of 10 to 18 experts on the panel to allow for a consensus to be reached (Okoli & Pawlowski, 2004). The minimum sample size of 10 was selected based on the limited timeframe that the researcher had on data collection.

### 3.2 Privacy

Participants were not required to provide any personal information. To ensure privacy of the data collected, online surveys were created with the privacy configuration set to *Anonymize Response on* Qualtrics. This setting safeguards data of participants and guarantees that no personal data is collected such as the IP addresses of the participants and any other personal information. The demographic section of the survey was constructed in such a way that confidentiality of the participants was kept as well.

## 4 Results and Analysis

### 4.1 Phase I – Brainstorming

The goal of this round is idea generation from the panel through brainstorming (Keil et al., 2013). The brainstorming phase was conducted over a period of 2 weeks. The first questionnaire consisted of the demographic questions and a leadership skills brainstorming question. Demographic and brainstorming was combined to ensure the number of surveys sent was minimized. The participants were tasked to complete a survey through a link that was sent via email and LinkedIn direct messaging.

**Table 3: Participant Demographics**

| Participant Occupation | Qualification | Years Experience |
|---|---|---|
| Process Engineer | Master's Degree | 5 – 10 years |
| Manager Channels, Payments & Settlements | Bachelor's Degree | 5 – 10 years |
| Chartered Accountant by profession working as Banker heading Assets & Liabilities | Postgraduate Degree/Diploma | 11 – 15 years |
| Manager: Digital Channels IT | Bachelor's Degree | 5 – 10 years |
| IT Engineer | Master's Degree | 5 – 10 years |
| Manager: IT Operations | Postgraduate Degree/Diploma | 5 – 10 years |
| CIO | Postgraduate Degree/Diploma | 16 – 20 years |
| Digital Transformation Head | Bachelor's Degree | 5 – 10 years |
| Group CIO | Other | 16 – 20 years |
| Chartered Accountant | Postgraduate Degree/Diploma | 5 – 10 years |

Each panelist was requested to propose at least six leadership skills that they consider vital for DT, including a brief description of each skill as similarly done by Mangiza & Brown (2020). From the ten industry professionals, 68 skills were collected and combined with an additional 32 skills obtained from literature (see Table 2), amounting to a total of 100 skills. The skills were compiled together, and duplicates removed. Skills with generic meanings were reworded accordingly. At the end of this exercise, a list of 43 unique skills was finalized for ranking in Phase two of the study.

### 4.2 Phase II – Narrowing down

The 43 unique skills collected from the previous phase were compiled into an online questionnaire that was shared with the respondents to narrow down the list. At this round, participants were required to select 20 leadership skills that they considered critical for digital transformation from the randomized list of 43 skills (Schmidt et al., 2001; Mangiza and Brown 2020). A total of 7 responses were received with 23 skills selected by more than 50% of the respondents These 23 skills were categorised as in Table 4 based on the categories in Table 2 and were then moved to the next round of ranking.

**Table 4: Top Leadership Skills (from Phase II)**

| Skills Category | Skills |
|---|---|
| Technical (TECH) | ▪ Manage technological change<br>▪ Drive digital innovation and creativity<br>▪ Analyze crucial data for meaningful conclusion<br>▪ Oversee digital security<br>▪ Research market trends |
| Cognitive (COG) | ▪ Exercise learning agility around digital transformation |
| Business Skills (BUS) | ▪ Understand the bigger picture of the organization to avoid duplication of digital transformation efforts and conflict<br>▪ Garner buy-in from business colleagues who have to understand that digital transformation is not an "ICT thing"<br>▪ Drive customer or end user value<br>Be willing to take risks |
| Interpersonal Skills (INT) | ▪ Be flexible and adaptive to change<br>▪ Apply excellent communication skills<br>▪ Foster team-work<br>▪ Exercise agility in decision-making<br>▪ Clearly communicate the intended change, without use of IT jargon |
| Strategic skills (STR) | ▪ Strategize for digital transformation<br>▪ Forecast the digital future<br>▪ Apply systems thinking to digital transformation<br>▪ Be able to make hard decisions<br>▪ Assess the real benefits vs perceived or perception of the gains from digital transformation |
| Transformational leadership skills (TRNS) | ▪ Inspire a shared vision of the digital future<br>▪ Empower others to act<br>▪ Envision and accommodate the digital trends |

## 4.3 Phase III - Ranking

### *4.3.1 Round 1*

Round 1 was conducted over a period of 3 weeks. The purpose of the ranking phase was to reach a consensus amongst the panel. The 23 top skills were compiled in an online survey developed with Qualtrics. Participants were requested to drag and drop the skills from the most important skill at the top of the list to the least important skill at the bottom. 7 out of 10 responses were received for this round which constituted enough responses to proceed with the study (Keil, Lee, & Deng, 2013). The top-ranked skill was based on the highest mean ranking score (see Table 5). The following skills emerged as the top 5 critical skills for digital transformation in Round 1:

1. Clearly communicate the intended change, without use of IT jargon
2. Apply excellent communication skills
3. Understand the bigger picture of the organization to avoid duplication of digital transformation efforts and conflict
4. Envision and accommodate the digital trends
5. Garner buy-in from business colleagues who have to understand that digital transformation is not an "ICT thing"

### *4.3.2 Round 2*

Round 2 was conducted to ensure that the panel had general agreement on the critical skills selected for Round 1. A total of 7 out of 10 responses was received. The second round of ranking allowed the participants to review and revise their choices from the first round (see Table 5). Based on the results, the following skills emerged as the top 5 critical skills for digital transformation in Round 2:

1. Assess the real benefits vs. perceived or perception of the gains from digital transformation
2. Garner buy-in from business colleagues who have to understand that digital transformation is not an "ICT thing
3. Analyse crucial data for meaningful conclusion
4. Research market trends
5. Foster team-work

**Table 5: Round 1 versus Round 2 Ranking**

| Category | Skills | Mean rank Round 1 | Mean rank Round 2 |
|---|---|---|---|
| **INT** | Clearly communicate the intended change, without use of IT jargon | 17.71 | 10,29 |
| **INT** | Apply excellent communication skills | 17.57 | 6,86 |
| **BUS** | Understand the bigger picture of the organization to avoid duplication of digital transformation efforts and conflict | 17.14 | 9,57 |
| **TRNS** | Envision and accommodate the digital trends | 14.86 | 10,71 |
| **BUS** | Garner buy-in from business colleagues who have to understand that digital transformation is not an "ICT thing" | 14.71 | 16,33 |
| **STR** | Forecast the digital future | 13.29 | 12,5 |
| **TRNS** | Inspire a shared vision of the digital future | 13.29 | 10,5 |
| **STR** | Apply systems thinking to digital transformation | 12.86 | 12,5 |
| **STR** | Be able to make hard decisions | 12.57 | 8 |
| **COG** | Exercise learning agility around digital transformation | 12.29 | 9,67 |
| **TECH** | Oversee digital security | 12.14 | 14 |
| **TECH** | Manage technological change | 11.29 | 12,83 |
| **STR** | Assess the real benefits vs perceived or perception of the gains from digital transformation | 11.00 | 16,5 |
| **STR** | Strategise for digital transformation | 10.86 | 12,17 |
| **TRNS** | Empower others to act | 10.86 | 12,17 |
| **BUS** | Be willing to take risks | 10.43 | 11,17 |
| **TECH** | Drive digital innovation and creativity | 10.29 | 8 |
| **TECH** | Research market trends | 10.29 | 14,83 |
| **INT** | Foster team-work | 10.00 | 14,33 |
| **TECH** | Analyse crucial data for meaningful conclusion | 9.43 | 15 |
| **INT** | Be flexible and adaptive to change | 8.71 | 11,5 |
| **INT** | Exercise agility in decision-making | 7.57 | 12,17 |
| **BUS** | Drive customer or end user value | 6.86 | 9,83 |

Schmidt (1997) used the Kendall W to calculate the consensus between two rounds (mean scores in Table 5 above). The high and low agreement is indicated by values of 1 and 0 respectively (as cited by Keil et al., 2013). A Kendell W of 0.017 generated from round one and two mean ranks indicated a non-consensus between the two rounds of ranking. This means there was a low agreement between what the participants picked in Round 1 compared to what was selected in Round 2. Given the time constraints a third round was not feasible to arrive at consensus, and the Top 3 skills from Round 2 were analysed further.

### 4.4 Top 3 Skills

These Top 3 skills were interrogated through a further round of interviews with the participants, whereby respondents were asked to indicate reasons for choice, as shown in Table 6.

**Table 6: Top 3 Skills**

| Category | Skill | Reasons of Choice |
|---|---|---|
| STR | Assess the real benefits vs perceived or perception of the gains from digital transformation | ▪ "What may apply to organization A may not apply to organization B, what may be in industry A might not apply to industry B, what may apply to a country or continent may not be applicable in the selling to another country. So I think every organization, every business needs first to assess what are going to be the benefits for the business to go on a journey of digital transformation."<br>▪ “provide value to customers.”<br>▪ "align in terms of delivering solutions that matter to the needs of the clients." |
| BUS | Garner buy-in from business colleagues who have to understand that digital transformation is not an “ICT thing | ▪ "So you really need to get an organization to be on the same page, to understand your objectives. What do you want to achieve? And you all move together."<br>▪ "wherever you are today in your day to day business, you should be in a position where you as a business owner or a functional lead are able to find ways to improve or create efficiencies in your daily processes." |
| TECH | Analyze crucial data for meaningful conclusion | ▪ “If you don't have the data to support what you are deciding or the journey you are embarking on, then you are just somebody with another opinion."<br>▪ “able to make decisions which are fact based.”<br>▪ “The main thing that organizations are afraid of is risks, risk, ultimately reaps a loss in profit”<br>▪ "insight from customers." |

### 4.5 Developing digital transformation skills

RQ2 was addressed in the follow up interviews as well. Based on the panel's feedback, there are different approaches to developing DT skills within leadership. One of the participants gave an example of informal training offered through experimentation, which allows the leader to work on the job while

gaining the necessary experience and skills. Overall, the panel identified five ways in which organizations can develop the leadership skills without major cost implications. The methods identified by the panel include workshops and webinars, networking, training, formal or informal training, partnership, collaboration, and feedback. Participants also emphasized that leaders need to continuously learn by being open to learning and unlearning. Some participants highlighted the importance of research as key in learning about market trends and that organization can use research as a tool for leaders to learn about the digital trends.

## 5 Conclusion and future research

The top 5 skills identified as key for digital transformation were as follows: (1) Assess the real benefits versus perceived or perception of gains from digital transformation (2) Garner buy-in from business colleagues who have to understand that digital transformation is not an "ICT thing". (3) Analyse crucial data for meaningful conclusion (4) Research market trends and (5) Foster teamwork. The results show that none of the skills defined in the literature (Table 2) have been directly ranked high by the panel.

The top categories ranked by the panel are as follows (1) Strategic skills. (2) Business skills (3) Technical skills and (4) Interpersonal skills. The categories picked by the panel indicate that there is a fair mix of soft and hard skills suggesting that both are critical for digital leaders.

Finally, the follow up interviews provided rationale for the non-consensus between round 1 and 2 of ranking as well as addressed how organizations can develop digital transformation skills within leadership. The panel identified workshops and webinars, networking, formal or informal training, partnership, and collaboration as some of the ways in which organizations can develop digital leadership skills. The Delphi method is proven to be a useful tool for collecting information that has many unknowns to provide a form of new knowledge.

One of the avenues for future research is expanding the research panel to a much wider audience with diverse experience in digital transformation leadership. Another aspect that can be further explored is a more comprehensive statistical analysis of the ranking results. Instead of only comparing the consensus between the ranking rounds, the consensus can be calculated based on the agreement between participants per round of ranking. Furthermore, an in-depth analysis of the skills found in this study can be conducted to determine how they impact the success of digital transformation.

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