

Digitalisation of the professional hairdressing industry and the impact on value chain stakeholders



Authors:

Lefa N. Kokong¹ 
Sugandren Naidoo² 

Affiliations:

¹Department of Management Science, Graduate School of Business Leadership, University of South Africa, Tshwane, South Africa

²Department of Operations Management, College of Economic and Management Sciences, University of South Africa, Tshwane, South Africa

Corresponding author:

Sugandren Naidoo,
naidoosu@unisa.ac.za

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Background: Pandemic fears during the coronavirus disease 2019 (COVID-19) pandemic have caused hairdressers, beauty salons and distributors, as well as the producers of professional haircare and colouring products, to come together to adapt the value chain of professional services. Aesthetic beauty and physical image have gained personal and economic value amongst all age groups and genders, making the South African hairdressing industry a key player as a socio-economic contributor.

Objectives: The main objective of this study was to identify which factors influence digitalisation in the hairdressing industry, and to explain the impact on key stakeholders within the products and services value chain.

Method: The methodological approach taken in this study is a mixed methodology, categorised in two phases: phase 1 presented a quantitative approach and phase 2 presented a qualitative approach based on the dynamic nature of the professional hairdressing industry. One hundred responses were collected via an online survey and analysed using descriptive and inferential statistics. Thereafter, six virtual online interviews were conducted with purposively selected industry participants. The data were then triangulated to infer recommendations for the hairdressing industry.

Results: The findings, which were triangulated, showed that digitalisation has influenced and transformed businesses and the way in which they interact and transact with consumers. Furthermore, digitalisation has created a convenient and enhanced consumer experience in terms of how consumers interact and transact with businesses.

Conclusion: This research provides a unique perspective on how digitalisation has influenced and transformed the professional haircare industry. The study also identified what influence digitalisation has had on key stakeholders in the professional products and services value chain.

Keywords: COVID-19; professional services; digitalisation; hairdressing industry; mixed method approach; value chain stakeholder; factor analysis.

Introduction

From working and schooling online, to e-health online appointments and therapy, the digitalisation of everyday life is quickly becoming the new normal. When studying online consumer resilience during the coronavirus disease 2019 (COVID-19) pandemic, clearly many consumer goods, services and experience organisations have turned to e-commerce as an essential part of doing business. Tran (2021) recommends that companies strategically build e-commerce platforms and use offline methods to source and order supplies, as more consumers are turning to online platforms to avoid face-to-face contact and mitigate the risk of infection, in addition to increasingly engaging in sustainable consumption behaviours. Concerns about the pandemic, referred to as 'pandemic fear' by Tran (2021), require organisations to adapt (just as consumers have) by allowing their value chains to support both on- and offline means of provisioning goods and services, in a manner that satisfies key ways of transacting, namely either through business-to-consumer (B2C) or business-to-business (B2B) transactions (Tran 2021).

Beauty salons were amongst the industries worst affected by the South African government's hard lockdown, because of the nature and level of contact required with clients and customers (Zakaria 2019). Post-lockdown, beauty salons were permitted to operate but only at 50% capacity, as per the COVID-19 restrictions. Beauty salon owners and hairdressers were ready for a large influx of patrons and prospective customers, and they put in place health and safety measures to minimise contact, in addition to maintaining a clean and sanitised environment. Regrettably for

beauty salons and hairdressers, the demand was short-lived and the patronage lower than expected, as consumers had adapted, in line with the react-cope-adapt (RCA) theory (Guthrie, Fosso-Wamba & Arnaud 2021:3). Many had either moved to do-it-yourself and self-care beauty products (which can be ordered online), or they were reluctant to venture forth, given that no vaccine had been created at that time, and continued to be driven by pandemic fear (Tran 2021). To investigate this phenomenon, the research statement for this study was to identify the impact that the digitalisation of the professional hairdressing industry of South Africa has on the value chain. In addition, this research aimed to offer insight into the South African hairdressing industry value chain and the effect of digitalisation on stakeholders. Receiving feedback on related investments will be of value to the industry, as will recommending how stakeholders can be served through the digital transformation of the value chain.

Literature review

Aesthetic beauty and personal appearance have gained significant currency amongst all age groups and genders who are prepared to invest in improving their self-image, and this makes the South African hairdressing industry a key socio-economic contributor (Rambe & Mpiti 2017). According to a Services Sector Education and Training Authority (SETA 2017) research report, the total impact of the hairdressing industry on South Africa's gross domestic product (GDP) is estimated to amount to approximately R24.85 billion or 0.62% of the country's total GDP.

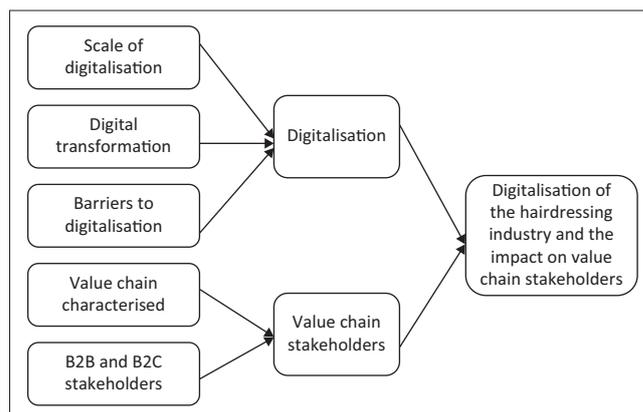
Digitalisation defined and differentiated

The terms 'digitisation' and 'digitalisation' were found to be synonymous with the concept of digital transformation, which Zakaria (2019) describes as a tangible, step-by-step transformation within and of an organisation, via the introduction of digital technologies. Strønen (2020) differentiates between digitalisation and digitisation by describing the former as the conversion of analogue to digital, whilst associating the latter with the use of digital technologies and digitised data, to impact how work gets done, transform how customers and companies engage and interact and create new (digital) revenue streams. The literature identifies theories around digitisation based on the degree, transformation and barriers that are applicable to the concept of digitalisation.

Conceptual framework

Figure 1 provides a conceptual framework for the research reported on here, focusing on the core elements, namely digitalisation and the value chain stakeholders.

The conceptual framework for the digitalisation of the South African hairdressing industry is based on a review of the relevant literature; the transformation of, and barriers to, digitalisation; and on the value chain, based on B2B and B2C



B2B, business to business; B2C, business to customer.

FIGURE 1: Conceptual framework for the digitalisation of the hairdressing industry and the impact on value chain stakeholders.

modelling used to allocate stakeholder roles within that chain, and these form the core themes of the research.

The scale of digitalisation

Using the scale of digitisation theory, Strønen (2020:232) distinguishes the degree to which digitalisation takes place, in terms of four levels on which digitalisation is created and consumed by the market.

Pure digital: At this level of digitalisation, the core existence and consumption of the product or service are both digital. Examples by Strønen (2020:232) include online games, software and streaming services (audio and visual) as well as photography. The products and services are both produced digitally and consumed digitally by customers.

Digital distribution: This is the level on which products and services are distributed in digital format, but the experience or consumption of the product or service may not be in digital format. Examples include flight tickets, cinema tickets or concert tickets, in which the experience or consumption thereof is not digital. One must physically board a flight and attend a motion picture screening or concert.

Digital information: Here, information on the availability and characteristics of the products or services is digital. According to Strønen (2020:232), traditional online shopping, where a customer can find information and purchase products, is also a digital information format. In the context of hairdressing, this is important, and customers can make online appointments.

Additional digital services: Strønen (2020:232) cites additional digital services as 'additional utility', achieved by 'creating extra services or even more streamlined services to the services or products provided'. In this way, digital is used to enhance the experience of a product or service. By understanding the distinct levels and degrees of digitalisation, businesses such as the hairdressing industry can transform by introducing new ways of working or changing existing products and services.

Digital transformation

Hagberg, Sundstrom and Egels-Zanden (2016:699) identify four main elements where digital transformation has taken place for businesses and consumers.

Changes in communication channels

Not only is the direct communication between businesses and consumers adapting to digitalisation, businesses can also make use of social media and third-party communication to relay aspects such as price and/or deals and to allow for comparisons. Information regarding various aspects of the exchange becomes available and can increase transparency (Hagberg et al. 2016:699).

Rapid increase in transactions: Digitalisation transformed transactions by introducing click-and-collect functions; in-store navigation has been digitalised to help navigate and permit digital (instead of cash) payments. All this has resulted in the transaction process being more pragmatic, enabling more transactions to be processed.

New forms of distribution: Digitalisation has transformed the physical look and format in which products are distributed. Even with products that take on a physical format, the use of European Article Number (EAN) and QR codes adds to the digital dimension of products, whilst click-and-collect services, as well as online shopping, make for faster and more efficient distribution.

Parviainen et al. (2017:66) summarise the impact of digitalisation from three viewpoints:

- internal efficiency, because of improved ways of working via digital means and replanning internal processes
- external opportunities, with new business opportunities in existing business domains (new services and customers)
- disruptive change, as digitalisation causes changes in business roles.

Barriers to digitalisation: The South African context

Whilst digitalisation has become the key driver of the digital economy and is characteristic of the Fourth Industrial Revolution (4IR), certain obstacles still act as disincentives in this regard. According to Maphanzela (2020), barriers to digitisation include the following.

Connectivity

South Africa finds itself in a connectivity dilemma, given the digital divide that exists because of the country's limitations in internet access provision and the inability to make effective use of the internet.

Cyber security

Customers need to trust virtual businesses, and such trust is achievable through consistency in terms of excellence, as well as culturally appropriate virtual interfaces which ensure that consumers feel safe in a virtual space.

Logistical infrastructure

Businesses recognise logistics as an important part of the digitalised ecosystem, where errors could lead to the collapse of the entire system. Many have therefore opted to outsource logistics solutions to partners to fulfil orders.

Financial inhibitors: Payment methods and funding: Two key financial aspects that hinder the progress of digitalising a business are access to funding and the financial infrastructure to transact with customers. According to Maphanzela (2020:62), credit cards and debit cards are the preferred methods of payment, but access to credit is heavily regulated, with lower interest rates only accessible to the middle and upper class. The researcher attributes slow economic growth and the regulations for South African financial institutions as the actors limiting access to funding for entrepreneurs.

Human capital

For businesses to be able to digitally transform, they need adequate employee numbers and sufficiently skilled teams to implement and maintain virtual ways of working, as well as innovative technology systems. Businesses need to recruit from an already scarce pool of skilled resources or empower and educate employees in new digitalised technologies, which both require resources, as a scarce skills pool drives up the cost to recruit and retain talent, whilst courses and education to close the knowledge gap of current employees may be costly too.

Government regulation and taxation

The South African government currently does have a regulatory framework for e-commerce in place, and despite existing tax systems, it is unable to effectively address the taxation of e-commerce transactions. The barriers affecting each business may differ based on the level or degree of digitalisation and transformation that a business requires. 'Pure digital' businesses are likely to be worst affected by the aforementioned barriers, whilst businesses that operate at the 'additional digital services' level are likely to be least affected by such barriers.

Value chain purpose in organisations

Value chain creation is an essential part of any successful business model. 'Value-add' implies both the creation and capturing of value (Zamora 2016:118). In any industry chain, each stakeholder in the chain is expected to add value.

Value chain versus supply chain

Value chain and supply chain are two concepts with many similarities but with philosophical differences. Zamora (2016:119) summarises the differences best when distinguishing between the two ideas based on how the theories are managed: supply chain management deals with efficiency, market access and increased distribution, whilst the emphasis in value chain management is on quality, service and agility, with distribution determined by consumer demand rather than capacity utilisation. When applying the

supply chain versus value chain definition, the hairdressing industry is considered a value chain as it creates support to the economy through job creation and supplier development.

Business-to-business and business-to-consumer models

In a value chain, companies create goods for consumers, but they may not necessarily sell those goods to consumers. In a value chain, as in all chains, there are linkages. As Zamora (2016) and Naidoo and Ramphal (2020) note, all business firms are part of a value-creating network. In the network, some businesses offer goods and services to other businesses, whilst others offer goods and services to consumers. These businesses operate in the B2B and B2C markets, respectively.

According to Kęstutis and Lina (2019), B2B applies to companies that market their goods or services exclusively to other businesses (a manufacturer deals with a wholesaler or a wholesaler with a retailer) and not to consumers, whilst B2C applies to businesses that market their goods or services to consumers.

Value chain stakeholders in the industry value chain of the hairdressing industry

Based on the nature of, and differences between, the two models, the industry value chain, when applied to the South African hairdressing industry, differs slightly depending on the role of each stakeholder and the manner in which the value chain intends to create services and provide products to consumers.

Value chain stakeholders in the South African value chain hairdressing industry

Manufacturers and suppliers

According to Marketline (2016:12), the key market manufacturers and suppliers were Unilever, P&G (Proctor & Gamble) and L'Oréal, which made up 58.9% of the South African haircare market. Most manufacturers and suppliers import and/or produce products for the local market, with those who import, sourcing from foreign manufacturing plants across the globe.

Key accounts

These are categorised as hairdressing chains across the country, where larger beauty salons form part of a small hairdressing network that falls under one entity. Whilst some hairdressing chains may be made up of centralised beauty salon management and ownership under one entity, other hairdressing chains make use of a franchising model where individual, larger beauty salon owners work together and make use of their joint impact to guarantee bigger discounts and allowances from manufacturers and suppliers, making use of their mass purchasing power (Marketline 2016).

Distributors

By servicing smaller beauty salons, they create a widespread distribution network. Distributors target smaller salons and

take advantage of the inefficiencies of manufacturers and suppliers by creating a faster, more efficient service with a deeper distribution reach. Distributors act as an extension of manufacturers and suppliers of various products and equipment that a beauty salon could require, using the joint benefit of their distribution and summed-up buying power, to secure discounts and allowances from manufacturers and suppliers in exchange for wider brand awareness and market share using the distributors' holistic network.

Wholesalers

A wholesaler acts as a link in a value chain which, unlike distributors who depend on efficiency and networks to provide goods and equipment, relies on accessibility from both a hairdresser and consumer point of view. Wholesalers secure discounts and allowances from manufacturers and suppliers by acting as a clearance option, as well as covering the final, individualistic level of distribution within the industry.

Beauty salon owners and hairdressers

They work together to create an environment that delivers on the above services and offer locations where products are used and sold to consumers. Beauty salon owners and hairdressers work together to create an environment that delivers on the above services and act as a place that allows the use and selling of products to consumers in the industry.

Consumers

The end-users of joint efforts by value-creating stakeholders, they form the market that injects economic benefits back into the industry. Consumers are the end-users of the joint efforts of the value-creating stakeholders and form the market that injects economic benefits back into the industry.

Methodology

A pragmatic research philosophy was followed in investigating the digitalisation of the professional hairdressing industry in South Africa and the impact on value chain stakeholders. For this study, a deductive approach was used, as the research makes use of statistical techniques to draw conclusions. Data were collected using an online survey to make statistical inferences and draw conclusions from the findings. The research was performed and categorised as a cross-sectional or short-term undertaking. The techniques and procedures employed include data collection and analysis using primary and secondary data, choosing sample groups, developing questionnaire content and preparing interviews.

The data collected were based on a mixed methods design, in which quantitative data were substantiated by a qualitative component, to better understand and analyse the research findings.

According to Services SETA (2016:31), there are approximately 185 415 active employees in the hairdressing and personal care services sector. Salons specialising in Afro-textured hair account

for 85% (± 34000 hairdressing salons), whilst 15% (± 3000 hairdressing salons) cater for the market of white customers.

For the study, a judgement sampling technique was used, with the stated stakeholders located in and around the industry in Johannesburg, South Africa. That group consisted of manufacturers and suppliers, key accounts, distributors and wholesalers, regular beauty salon owners, hairdressers and stylists, as well as the final consumers. This selection, as a judgement technique, was based on the respondents' knowledge, skills and experience of the industry (see Table 1).

Table 2 illustrates the number of participants through interviews on qualitative samples.

This sample (see Table 2), obtained from the hairdressing industry network of business partners and associates, was handpicked to ensure that the study would be wide-ranging but also rigorous in its information and data collection.

Three pilot questionnaires from the sample were used to test the study, and two pilot interviews were conducted (all of these have been omitted from the final data analysis).

Results

Response rate (phase 1: Quantitative)

The questionnaires used a five-point Likert scale and were completed between 13 September 2021 and 25 October 2021, with an average response rate of 85% for all the questions. Using SurveyMonkey (Momentive, Inc., San Mateo, California, United States), from a population of 118 respondents, 100 responses were received, from 12 manufacturer and supplier representatives, 11 distributor and wholesalers' representatives, 23 salon owners and managers, 28 hairdressers and stylists and 26 consumers.

Digitally transcending barriers

The respondents were asked: *what do you believe is the biggest barrier to digitally transforming the hairdressing industry?* The results are presented in Table 3.

TABLE 1: Sample size of the quantitative approach.

Respondents	Number
Manufacturers and suppliers	10
Distributors and wholesalers	10
Beauty salon owners and managers	30
Hairdressers	30
Consumers	20

TABLE 2: Sample size of the qualitative approach.

Participants	Number
Manufacturers and suppliers	1
Distributors and wholesalers	2
Beauty salon owners and managers	1
Hairdressers	1
Consumers	1

The respondents indicated that digital connectivity and infrastructure (38.8%), which may include cyber-security (8.2%), were major barriers for the hairdressing industry, followed by financial constraints (28.6%). The availability of suitable human resources (19.4%), followed by government regulations (5.0%), were amongst the other barriers influencing that industry.

Descriptive statistics of questionnaire

According to the descriptive statistics of the questionnaire, as presented in Table 4, the respondents in general did not often purchase digitally (online) for personal use (mean = 2.93; standard deviation [SD] = 1.50). If they did, at most they did so once or twice a month. The majority of the respondents agreed that digital platforms had enhanced their personal consumer experience (mean = 3.58; SD = 1.33), and many stated that digitalisation had had a positive impact on the hairdressing industry (mean = 3.58; SD = 1.20). The majority were of the opinion that digitalisation meant convenience for their industry (mean = 3.60; SD = 1.26), and they indicated that, in general, they would strongly encourage the digitalisation of the hairdressing industry (mean = 3.79; SD = 1.01), whilst many strongly agreed that digitalisation brings value to their industry (mean = 3.88; SD = 0.99). From the results, when digitisation is implemented, there will be a positive impact on the value chain.

Factor analysis

The reliability analysis that was conducted on the items, with a view to determining acceptable internal consistency reliability (Pallant 2016), is presented in Table 5.

The result obtained from the iterative reliability analysis of the scale (measured by six items) yielded a Cronbach's alpha of 0.720,

TABLE 3: Perceived impact of digitalisation ($n = 100$).

Scale	Frequency %	Valid %	Cumulative %
Connectivity and infrastructure	38.0	38.8	38.8
Cyber-security	8.0	8.2	46.9
Finances	28.0	28.6	75.5
Human resources required	19.0	19.4	94.9
Government regulations	5.0	5.0	100.0
Total	98.0	100.0	-
Missing	2.0	-	-
Total	100.0	-	-

TABLE 4: Descriptive statistics of questionnaire ($n = 100$).

Question	N	Missing	Mean	SD
How often, for your personal use, do you purchase digitally (online, mobile apps, etc.)?	100	0	2.93	1.50
Has digitalisation enhanced your personal consumer experience?	99	1	3.58	1.33
How do you think digitalisation has impacted the hairdressing industry?	99	1	3.58	1.20
What best describes the influence of digitalisation on the hairdressing industry?	100	0	3.60	1.26
Would you encourage or discourage the digitalisation of the hairdressing industry?	100	0	3.79	1.01
Do you believe digitalisation brings value to the hairdressing industry?	100	0	3.88	0.99

SD, standard deviation.

TABLE 5a: Iterative reliability analysis of questionnaire items.

Items	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Q2: How often, for your personal use, do you purchase digitally (online, mobile apps, etc.)?	18.444	15.719	0.417	0.333	0.714
Q3: Has digitalisation enhanced your personal consumer experience?	17.808	16.993	0.385	0.337	0.717
Q4: How do you think digitalisation has impacted the hairdressing industry?	17.808	17.381	0.410	0.406	0.707
Q6: What best describes the influence of digitalisation on the hairdressing industry?	17.758	16.267	0.519	0.456	0.675
Q9: Would you encourage or discourage the digitalisation of the hairdressing industry?	17.596	16.509	0.658	0.463	0.646
Q10: Do you believe digitalisation brings value to the hairdressing industry?	17.505	17.946	0.478	0.278	0.692

SD, standard deviation.

TABLE 5b: Iterative reliability analysis of questionnaire items.

Questionnaire items	Scale Cronbach's alpha	Mean	Variance	SD	N of items
Factor 1	0.775	14.186	11.911	3.4513	4
Factor 2	0.698	6.515	6.171	2.48	2
Scale	0.720	21.384	22.953	4.79	6

SD, standard deviation.

TABLE 6: Intercorrelations matrix (Spearman correlations) of the six variables.

Items	Q2	Q3	Q4	Q6	Q9	Q10
Q2: How often, for your personal use, do you purchase digitally (online, mobile, apps, etc.)?						
Correlation Coefficient	1.000	-	-	-	-	-
Sig. (2- tailed)	-	-	-	-	-	-
N	100	-	-	-	-	-
Q3: Has digital enhanced your consumer experience?						
Correlation Coefficient	0.574*	1.000	-	-	-	-
Sig. (2- tailed)	0.000	-	-	-	-	-
N	99	99	-	-	-	-
Q4: How do you think digitalisation has impacted the hairdressing industry?						
Correlation Coefficient	0.074	0.064	1.000	-	-	-
Sig. (2- tailed)	0.469	0.529	-	-	-	-
N	99	99	99	-	-	-
Q6: What best describes the influence of digitalisation on the hairdressing industry?						
Correlation Coefficient	0.223*	0.172	0.553**	1.000	-	-
Sig. (2- tailed)	0.026	0.089	0.000	-	-	-
N	100	99	99	100	-	-
Q9: Would you encourage or discourage the digitalisation of the hairdressing industry?						
Correlation Coefficient	0.324**	0.326**	0.506**	0.541**	1.000	-
Sig. (2- tailed)	0.001	0.001	0.000	0.000	-	-
N	100	99	99	100	100	-
Q10: Do you believe digitalisation brings value to the hairdressing industry?						
Correlation Coefficient	0.204*	0.141	0.485**	0.360**	0.440**	1.000
Sig. (2- tailed)	0.042	0.165	0.000	0.000	0.000	-
N	100	99	99	100	100	100

**, Correlation is significant at the 0.01 level (2-tailed).

*, Correlation is significant at the 0.05 level (2-tailed).

indicating acceptable internal consistency reliability (Pallant 2016). This means the extracted factors in the scale were reliable.

Inferential statistics for the study

Inferential statistical calculations were conducted on the data collected, with the intention of making inferences about the population, based on the sample of data taken from the population (Creswell 2014). The results of the inferential statistical analysis are presented next.

Intercorrelations between subscales

The Spearman correlations (Table 6) were conducted to measure the strength of association and direction between the four variables of this study.

According to Pallant (2016), the strength of association or correlations ranging between the values of $r = 0.1$ and 0.3 present a small effect, $r > 0.3-0.5$ a moderate effect and those greater than $r < 0.5$ a large effect size.

There was a strong significant positive relationship between Q2 and Q3 ($r [n = 99; p < 0.01] = 0.574$), as perceived by the respondents. Respondents agree that digitalisation enhanced the consumer experience.

There was a significant positive relationship between Q6 and Q2 ($r [n = 100; p < 0.05] = 0.223$) and between Q6 and Q4 ($r [n = 99; p < 0.01] = 0.553$), as perceived by the respondents. Digitalisation improved consumer online activity.

There was a significant positive relationship between Q9 and Q2 ($r [n = 100; p < 0.01] = 0.324$) and Q3 ($r [n = 99; p < 0.01] = 0.326$). A strong significant positive relationship existed between Q9 and Q4 ($r [n = 99; p < 0.01] = 0.506$) and Q6 ($r [n = 100; p < 0.01] = 0.541$), as perceived by the respondents. Hence, it is evident from the results that digitisation is encouraged in the hairdressing industry.

There was a significant positive relationship between Q10 and Q2 ($r [n = 100; p < 0.05] = 0.204$) and Q4 ($r [n = 99; p < 0.01] = 0.485$). A significant positive relationship existed between Q10 and Q6 ($r [n = 100; p < 0.01] = 0.360$) and Q9 ($r [n = 100; p < 0.01] = 0.440$), as perceived by the respondents. From the results, digitisation does create value in the hairdressing industry.

Variable mean score comparisons

Industry value chain groupings

The respondents were divided into five industry value chain groupings, namely manufacturer and supplier representatives; distributors and wholesalers; salon owners and managers; hairdressers and stylists and consumers (see section 4.3.1):

- **Digital purchases:** the nonparametric Kruskal–Wallis test revealed no statistically significant difference in the digital purchase levels of respondents across the five different industry value chain groups, $X^2 (4, n = 100) = 4.161, p = 0.390$. There were no significantly different digital purchase levels of respondents.
- **Personal consumer experience enhancement:** the nonparametric Kruskal–Wallis test showed no statistically significant difference in the personal consumer experience enhancement levels of respondents across the five different industry value chain groups, $X^2 (4, n = 100) = 7.417, p = 0.12$. Hence, personal consumer experience is enhanced through digitisation.
- **Digitalisation impact on hairdressing industry:** the nonparametric Kruskal–Wallis test revealed no statistically significant difference in the digitalisation impact on hairdressing industry regarding the levels of respondents across the five different industry value chain groups, $X^2 (4, n = 100) = 5.210, p = 0.27$. Therefore, personal consumer experience is enhanced through digitisation.
- **Digitalisation influence level on hairdressing industry:** the nonparametric Kruskal–Wallis test showed a statistically significant difference in the digitalisation influence level on hairdressing industry levels of respondents across the five different industry value chain groups, $X^2 (4, n = 100) = 10.598, p = 0.031$. Therefore, digitalisation influences the level on the hairdressing industry.

The industry value chain group, salon owners and managers ($n = 23$; median = 3; mean rank = 62.11) returned the highest scores, followed by the consumer group ($n = 26$; median = 3; mean rank = 53.71). Next was the hairdresser and stylist group ($n = 28$; median = 4; mean rank = 49.77), followed by the distributor and wholesaler group ($n = 11$; median = 4; mean rank = 36.86). The manufacturer and supplier representative group ($n = 12$; median = 4; mean rank = 35.50) returned the lowest scores.

To determine how the industry value chain groups differed, a Kruskal–Wallis test *post hoc* analysis was conducted on the variable digitalisation influence level on the hairdressing industry that yielded significant results (see Figure 2).

The Kruskal–Wallis test *post hoc* analysis, using a Dunn's procedure with Bonferroni correction for multiple comparisons, was unfortunately not able to reveal a statistically significant difference within the categories of the industry value chain with digitalisation influence level on hairdressing industry:

- **Digitalisation support:** the nonparametric Kruskal–Wallis test showed no statistically significant difference in the digitalisation support levels of respondents across the five different industry value chain groups, $X^2 (4, n = 100) = 0.645, p = 0.96$. The results imply digitalisation support is not significant in the digitisation of the hairdressing industry.
- **Digitalisation value to hairdressing industry:** the nonparametric Kruskal–Wallis test revealed no statistically significant difference in digitalisation value to the

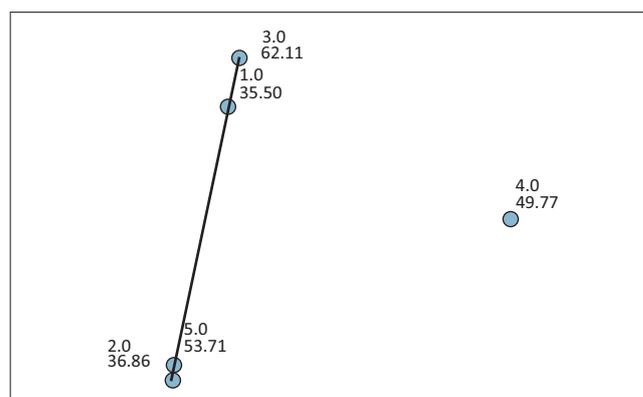


FIGURE 2: Digitalisation level on hairdressing industry mean rank scores comparison between categories in the industry value chain ($n = 100$).

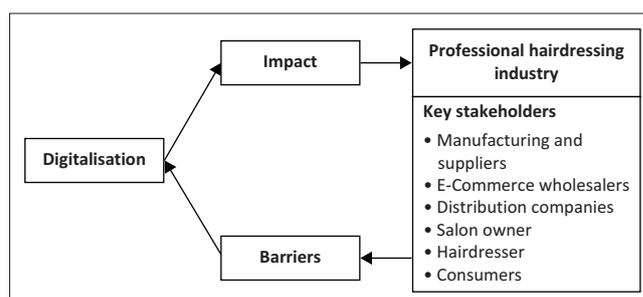


FIGURE 3: Thematic analysis on the hairdressing industry in South Africa.

hairdressing industry levels of respondents across the five different industry value chain groups, $X^2(4, n = 100) = 2.064, p = 0.72$. There was no digitisation value to the hairdressing industry.

Presentation of qualitative findings (phase 2)

In this section, the findings of the thematic analysis conducted on the qualitative data, collected with the semistructured interviews, are presented.

Demographic data of participants

The six participants included a wholesaler, a hairdresser, a salon owner, a general manager manufacturer, a distributor owner and a consumer. Having sampled representatives from all sectors of the industry value chain, the researchers ensured a balanced contribution.

Thematic analysis of qualitative data

A six-step thematic analysis method (Creswell 2014) was used to determine patterns or relationships within the data collected via the semistructured interviews, and those data were subsequently coded and grouped into themes. A thematic mind map was created (see Figure 3) for a better understanding of the findings.

Main theme 1: Transformational effect of digitalisation on the professional hairdressing industry

Subtheme 1.1: COVID-19 pandemic

'The pandemic has accelerated the digitalisation of many sectors and industries' business processes' (42, General Manager Manufacturer General Manager). The COVID-19 pandemic has accelerated the 4IR and forced many sectors to become more digitalised.

Subtheme 1.2: Digitalisation

Zakaria (2019:60) describes digital transformation as 'a tangible step-by-step transformation for an organisation via the introduction of digital technologies'. The pandemic has accelerated the digitalisation of many sectors and industry business processes, as is evident from this statement:

'The influence digital has had can be seen in the movement from a traditional approach, to tailoring business process for digital.' (45, E-Commerce Wholesaler Digital Manager)

Therefore, digitalisation has benefited the hairdressing industry to move towards the transformational goals.

Subtheme 1.3: Online shopping

During the hard lockdown, consumers had ample time to explore product offerings on the internet, and that changed online shopping forever, in the opinion of this hairdresser:

'Shopping online has enhanced my experience in gaining access to new items as they drop, without the hassle of making sure I am in-store at a certain time to get the items before they sell out.' (45, E-Commerce Wholesaler Digital Manager)

Subtheme 1.4: Online training

Hairdressing is one of the fastest-growing industries, and that process was accelerated by the pandemic. The customer, post-COVID-19, is more knowledgeable and demands a higher standard of service, as indicated in this verbatim quote:

'There is a savvy consumer who knows more than before, which requires the brands/hairdressers to service them differently now.' (45, E-Commerce Wholesaler Digital Manager)

Main theme 2: Digitalisation-driven transformation of key stakeholders

Subtheme 2.1: Manufacturers and suppliers

The influence of digitalisation on manufacturers' and suppliers' ways of working was described as follows:

'The exponential rise in the activity on digital platforms has compelled us to pivot to ways of working that support and partner with the pro[s] on their own pro-channels, recruit new consumers by providing educational-training content, as well as elevating the e-retailer by building their credibility through educational pro-content provided by the business.' (42, General Manager Manufacturer General Manager)

Subtheme 2.2: E-commerce wholesalers

An e-commerce wholesaler is a business that purchases large quantities of goods from many diverse categories and sells them in smaller quantities. Customers can now access and test products digitally, online. This has been confirmed by this participant:

'Inecto has created an app where you can see what you would look like with their different hair dyes, thus making the experience more enjoyable for the consumer. Also giving the hairdresser the confidence that the consumer will like the end results, as they have seen what they look like in that colour.' (42, General Manager Manufacturer General Manager)

Subtheme 2.3: Distributor company

A distribution company purchases products from manufacturers and suppliers and resells them at a profit. One participant described the distribution network as follows:

'Orders received primarily occur through mobile digital platforms such as WhatsApp. Our reporting systems and internal systems are all digitised in the distribution.' (29, Distributor Owner Co-Owner)

Subtheme 2.4: Beauty salon owners

Beauty salon owners and hairdressers work together to create an environment that delivers on services such as cutting, trimming, shampooing, weaving, colouring or styling hair; doing facials; and/or applying makeup. Very important potential markets, which do not currently have access to technology, are those people in the back streets and rural areas who are building up their businesses. This participant explained:

'Digitalisation creates unique opportunities for small brick-and-mortar businesses to start and develop, and for suppliers to engage in a broader way.' (29, Distributor Owner Co-Owner)

Subtheme 2.5: Hairdressers

Since the lockdown, many customers have not returned to salons, having adapted and either moved to do-it-yourself and self-care beauty products (ordered online) or being reluctant to venture forth for fear of catching the virus (Guthrie et al. 2021:3). For those who have begun to visit hairdressers again, as this participant indicated, there has been a change in mindset:

'The consumers broaden their interests and are open to exploration of different hairstyles, colours, products – this can be seen with this introduction of AI tools.' (32, Hairdresser Professional hairdresser)

Subtheme 2.6: Consumers

When the salons reopened, consumers expected a new level of service delivery, according to one of the participants:

'There is now a savvy consumer on the block, who knows more than before, which requires the brands or hairdressers to service them differently now.' (45, E-Commerce Wholesaler Digital Manager)

Better-educated consumers now demand greater convenience when it comes to haircare products and services, but as confirmed by this participant, the professionals need to verify the quality of, or trial, a new product offering for themselves:

'I feel like when it comes to education, I am happy to watch things; however, when it comes to new products and techniques, I must test, touch and feel the product for myself.' (32, Hairdresser Professional hairdresser)

Main theme 3: Barriers to digitally transforming the hairdressing industry

Subtheme 3.1: Connectivity

Although Internet infrastructure does exist in rural areas, it is poorly maintained:

'In South Africa, considering that digitalisation is detached from the villages and [in] many "locations" [informal areas], it is not yet viable, nor is it sustainable for that market.' (34, Consumer User)

Subtheme 3.2: Adoption rate

The term 'adoption rate' refers to the pace at which consumers acquire and implement new technology. In the local context, the pandemic has played a major role in this regard, as this comment confirms:

'Digitalisation has unleashed the power to influence an audience we may never have had access to before, by giving us the opportunity to engage consumers and influence their buying decisions, whilst still ensuring that we support the stylist and strengthen the e-retailer.' (34, Consumer User)

Subtheme 3.3: Human resources

Human resources refer to both employees and consumers. As regards the competencies of professionals, one participant had this to say:

'Several people in South Africa are skilled in doing hair, and it may be a talent they harnessed from a young age, but they do

not have the necessary education on hair and how it actually works, besides what experience has taught them.' (34, Consumer User)

Main theme 4: The negative effect of digitalisation on the hairdressing industry

Subtheme 4.1: Psychological disorders

A lack of human contact because of the excessive use of social media may cause mental illnesses in users (such as depression), but has also decreased users' attention span – something this participant is acutely aware of:

'A decline in the consumption of content where the attention span of individuals has decreased with the growth of digital platforms requires now that brands and companies create content and concepts that grab a customer's attention within three seconds or less.' (45, E-Commerce Wholesaler Digital Manager)

Subtheme 4.2: Data security

According to Maphanzela (2020:55), a key consideration of the digitalisation process is cyber-security, and for that reason, the trust between businesses and consumers is strongly based on perception, as this participant confirmed:

'I have trust in the companies I purchase from and [do] research to ensure their credibility and their policies on returns and refunds [are] legitimate before purchasing.' (45, E-Commerce Wholesaler Digital Manager)

Data security seems to be trusted by participants when purchasing online.

Discussion

Digitisation and digitalisation were identified as key aspects in the process of changing how an organisation operates as it digitally transforms (Strønen 2020:232). No change is possible without barriers being breached, and for the hairdressing industry in South Africa, the review revealed that connectivity and infrastructure – including cybersecurity, finances, human capital and government regulations – presented some of the core barriers.

When analysing and discussing the results, it became clear that digitalisation, as confirmed with the literature review, has influenced and transformed businesses. The findings emphasise that digitalisation has created a convenient and enhanced consumer experience and changed how consumers interact and transact with digitised businesses.

Many respondents believed digitalisation has had a positive impact on the hairdressing industry (mean = 3.58; SD = 1.20; see Table 4), whilst the majority of stakeholders who purchase digitally agreed that going digital has enhanced their personal consumer experience (mean = 3.58; SD = 1.33). The thematic analysis identified online shopping and training as transformative opportunities, brought about by digitalisation.

In understanding the influences and transformations in this sector, key threats (by products of digitalisation) may influence

how businesses operate and such factors (as derived from the thematic analysis) include psychological disorders, (a lack of) data security, eroding of expert knowledge, as well as industry gatekeeping. All these factors, which stem from digitalisation, affect the hairdressing industry in South Africa.

When identifying the influences digitalisation has had on key stakeholders in the hairdressing industry, the literature review firstly defined and identified what constitutes a value chain stakeholder. As Zamora (2016) notes:

All business firms are part of a value-creating network. However, some firms have greater influence than others in shaping the network; others have minor roles to play and tend to be shaped by the network instead. (p. 119)

In the value chain network of stakeholders, some entities operate in B2B markets and others in B2C markets. This was also evident from the research study and participants interviewed. As Keštutis and Lina (2019:76) explain, B2B companies market goods or services solely to other businesses, whilst B2C firms market to consumers. Based on the literature, five key stakeholders were identified as members of the professional products and services value chain of the hairdressing industry, namely manufacturers and suppliers; key accounts, distributors and wholesalers; beauty salon owners and hairdressers; consumers. In analysing and discussing the results, the influence of digitalisation on these key stakeholders was deemed to be positive. Industry participants highly encouraged and valued digitalisation (74% and 79%, respectively).

A thematic analysis of the qualitative interviews revealed that digitalisation is both viable and sustainable. For stakeholders in the industry, digital spaces grant an opportunity to directly engage with, and advertise to, consumers, allowing the industry to continue to expand and grow by reaching greater numbers of consumers more rapidly and by being more accessible.

Barriers to digitalisation remain a threat: as Maphanzela (2020) and Singh (2021) found, key barriers included connectivity, cyber-security, infrastructure, finances, human capital and government regulations. A thematic analysis of the research confirmed the existence of these barriers and identified slow adoption rates as a barrier, in addition to connectivity issues, government regulations and unskilled human capital.

Overall, during the quantitative evaluation, respondents indicated that digital connectivity and infrastructure (38%), along with cyber-security (8%), presented impediments to the hairdressing industry, followed by financial constraints (28%). The availability of suitable human resources (19%), followed by government regulations (5%), were further obstacles.

Conclusion

The purpose of this investigation was to explore the digitalisation of the professional hairdressing industry of South Africa and its impact on value chain stakeholders. The findings may contribute

by both equipping and empowering stakeholders with the knowledge and tools to succeed in this domain. The research, supported by the literature review, methodology and results, will grant hairdressers, beauty salon owners, distributors, wholesalers and product manufacturers and importers a glimpse into the risks and opportunities presented by digitalisation. Overall, stakeholders have been given reassurances about their investments (financial, personal and emotional), in ensuring the success of the hairdressing industry.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Author's contributions

L.N.K. was the main author in this article, which was derived from the research conducted for his master's study. S.N. was his supervisor.

Ethical considerations

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Data availability

The data are not publicly available. Only the primary researchers have access to the primary data as approved by the ethics committee.

Disclaimer

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