




Technology acquisition and the hair salon performance: The explanatory roles of human resources practices



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Orientation: The prominence of technology acquisition and transfer amongst small firms in entrepreneurial literature does not provide a compelling explanation for the processes and mechanisms through which such variables impact the performance of these firms.

Research purpose: The study investigates the extent to which specific human resource practices mediate the interaction between technology acquisition and performance of small cosmetology firms in the Central region of South Africa.

Motivation for the study: The extensive examination of technology acquisition and human resource practices fails to provide significant insights into the interaction of these factors in shaping the performance of small firms.

Research approach/design/method: From a population estimate of 500 hair salons situated in the Central region of South Africa, a survey was administered on randomly selected 150 hair salons. Statistical Package for Social Sciences (SPSS, Version 20) and Partial Least Squares Structural Equation Modelling (PLS-SEM) were used to analyse the 110 returned questionnaires that were complete and usable.

Main findings: The findings demonstrated a direct, positive and significant effect of technology acquisition on small, micro and medium enterprise (SMME) performance and confirmed the partial mediation of employee technical skills training on the interaction between technology acquisition and hair salon performance. Surprisingly, general business skills training partially but negatively mediated technology acquisition's interaction with hair salon performance.

Practical/managerial implications: It is recommended that policymakers and entrepreneurs emphasise training technical skills development and acquisition of technology to improve the performance of their businesses.

Contribution/value-add: The main contribution of this study lies in its provision of mechanisms through which the acquisition of technology impacts small firms, business entities that are under theorised and less robustly studied in developing countries' contexts.

Keywords: technology acquisition; HR practices; skills training; performance; SMME.

Introduction

There is a wide agreement amongst researchers that small, micro and medium enterprises (SMMEs) are critical to the creation of employment and economic growth (Blackburn, Hart, & Wainwright, 2013; Krishnan & Scullion, 2017). They account for over 90% of businesses in many countries around the world and contribute to the gross domestic product (GDP) of these countries (Blackburn et al., 2013; Krishnan & Scullion, 2017).

There is no universally accepted definition of the term SMME. Notwithstanding that, many international organisations have recommended a definition based on the size of the workforce employed (Krishnan & Scullion, 2017). In this context, the upper limit of the size of employment of an SMME often ranges from 250 to 500 employees (Krishnan & Scullion, 2017). In South Africa, a small business is defined as a separate business entity (including cooperative enterprises and non-governmental organisations), which is managed by one person (owner or manager) (Madichie, Mpiti, & Rambe, 2019; South African President's Office 2003). This places hair salons, the subject of our study, within a range of SMMEs in South Africa.

Even though many studies aptly focus on a wide range of SMMEs, only few studies have focused on hair salons (Madichie et al., 2019). The focus on hair salon firms is explained by the reality that these firms are neglected in the literature as they are perceived to be non-professional domains. For

instance, a study conducted by Onsongo and Muturi (2015) suggests that hair salons are often viewed as a last resort of individuals looking for alternative strategies of generating an income. They elaborate that school dropouts and those labelled as social failures often create hair salons and make lucrative businesses out of them. This is despite hair salons playing a significant role in providing employment opportunities and generating income for owners and managers.

Furthermore, despite the importance of technology acquisition and effective human resources management (HRM) practices for the success of large organisations, the research on the effectiveness of these resources in SMMEs is only beginning to emerge (Madichie et al., 2019; Mallinguh, Wasike, & Zoltan, 2020). It is therefore not clear whether and how technology acquisition and HR practices influence the effectiveness of SMMEs, particularly hair salons.

Technology acquisition refers to the set of activities that involve finding, evaluating, acquiring and utilising technological knowledge from external sources (Charmjuree, Badir, & Safdar, 2021). Related to technology acquisition is the concept of technology transfer, which Kooli-Chaabane, Boly and Yannou (2014, p. 76) define as the 'exchange of ideas, practices, objects, know-how, technical knowledge, intellectual property, discovery or invention resulting from scientific research conducted from universities or industry'.

Whereas HR policies refer to the organisation's stated intentions about the utilisation of its HR resources, HR practices represent the actual HR practices that the organisation implements (Boon, Hartog, & Lepak, 2019). We operationalise SMME performance as growth and profitability of such firms. As indicated by Mallinguh et al. (2020, p. 2), 'a technology transfer project is not useful unless it results in firm profitability and growth'.

The main purpose of the present article is to examine the impact of technology acquisition and selected human resource practices on the performance of hair salons in the Mangaung Metropolitan Municipality in the Free State province of South Africa. We use technology transfer, innovation and strategic human resource management (SHRM) theories to build on and examine the relationships amongst the variables.

We seek to make two main contributions to the literature in small businesses and entrepreneurship. Firstly, our study focuses on hair salons, the group of small businesses that are often neglected in the small business management literature (Madichie et al., 2019). Whilst there is evidence that some hair salons adopt the state-of-the-art grooming apparatus, including electric clippers, chemicals and sanitisers (Drucker, White, & Stanworth, 2005), it is not clear if the acquisition of these technologies makes a difference to such small businesses. This is fascinating because in emerging economy firms tend not to have knowledge and capabilities to operate new technologies (Charmjuree et al., 2021; Hanclova, Rozehnal, Ministr, & Tvrdikova, 2015; Madichie et al., 2019).

Secondly, we explore if the relationship between technology acquisition and performance of hair salons is not mediated by HR practices that enhance the ability and motivation of their employees. Even though existing literature in large businesses show that bundles of HR practices can have a positive influence on performance, little is known about the extent to which those results extend to small businesses (Mpiti, 2017; Sels et al., 2006). Too often, the HR concepts and theories developed within large organisations are applied uncritically in small businesses (Krishnan & Scullion, 2017) leading to disappointing results. Relatedly, researchers tend to assume that business concepts originating from developed economies can be transposed to the environments of emerging economies such as South Africa without proper contextualisation and reconfiguration, leading to suboptimal outcomes. For instance, it has been established that, compared to large firms, small firms adopt an informal approach to HRM, especially in emerging economies such as South Africa (Potgieter & Mokomane, 2020).

The results of our study will add to an increasing number of studies that explore the effectiveness of HRM in SMMEs (Hung, Cant, & Wiid, 2016; Machado & Melo, 2014; Mutumba et al., 2021). Furthermore, whilst the effects of technology acquisition on various proxies of SMME performance are sufficiently discussed in the literature, the mechanisms through which technology acquisition influences such performance are only beginning to emerge (Charmjuree et al., 2021). We hypothesise and empirically examine the mediating effects of HR practices on the relationship between technology acquisition and performance of hair salons in the Mangaung Metropolitan Municipality in the Free State province of South Africa. The explanation of how and why technology acquisition affects SMME performance has implications for theory and practice in entrepreneurship and small business management studies.

After this introduction, the hypotheses section briefly reviews the literature and presents testable hypotheses. The method's section focuses on the study method, and the study results are provided in the results section. The discussion section presents the results and their implications. The last section provides the conclusions of the study.

Theoretical development and hypotheses

Technology acquisition and performance

A compelling body of research intimates that technology acquisition and transfer are important for all businesses, particularly small businesses (Charmjuree et al., 2021; Kooli-Chabane et al., 2014; Madichie et al., 2019; Mallinguh et al., 2020). Technology acquisition and transfer help SMMEs to acquire technical knowledge, skills and abilities (KSA) (Rambe & Khaola, 2021), improve their process innovation (Mallinguh et al., 2020) and plausibly increase their performance.

Empirically, studies provide evidence that technology acquisition and transfer tend to increase the innovation

performance of SMMEs (Charmjuree et al., 2021; Kooli-Chabane et al., 2014), productivity and competitiveness of small-scale agricultural businesses (Rambe & Khaola, 2021) and satisfaction of clients in beauty salons (Mudzingwa & Kabote, 2014), to name a few studies. Mallinguh et al. (2020) established that the proportion of capital budget allocated for technology acquisition positively and significantly influence innovation and sales of SMMEs. Despite this plethora of studies that examined the effects of technology acquisition on SMME variables, few studies have paid particular attention to hair salons.

The literature indicates that different measures and proxies of performance have been used. Whilst large firms often use profitability measures as metrics of success, small firms often use growth as a performance indicator (Krishnan & Scullion, 2017). This is because growth is at the centre of inquiry in entrepreneurship and small business management studies (Blackburn et al., 2013). In this study, we combine both measures as proxies of performance of hair salons as we believe there is no growth strategy of SMME that ignores profitability. We therefore hypothesise that:

Hypothesis 1: There is a positive relationship between technology acquisition and performance of hair salons.

Human resource practices as mediating factors in the relationship between technology acquisition and performance of hair salons

Even though many studies tend to confirm the overarching prominence of technology acquisition on the performance of SMMEs, little is known about various mechanisms through which the relationship unfolds. The recent study by Charmjuree et al. (2021) found that external technology exploitation fully mediated the relationship between external technology acquisition and the process innovation performance of SMMEs in the emerging market. As technology exploitation requires human resource skills (Madichie et al., 2019; Sugawara & Liyanage, 1991), we submit that HR practices are a potent mechanism through which technology acquisition can affect the performance of SMMEs.

The SHRM literature posits that human resources practices or policies function as a system of internally consistent and reinforcing elements to achieve some results (Boon et al., 2019). Based on the ability-motivation-opportunity (AMO) model, Jiang, Lepak, Ju and Baer (2012) have suggested three bundles of HR practices: ability-enhancing practices (e.g. selection and training), motivation-enhancing practices (e.g. performance management and rewards contingent on performance) and opportunity-enhancing practices (e.g. employee involvement and job design). We propose that the ability-enhancing and motivation-enhancing practices are impacted by technology acquisition and in turn facilitate the interaction of technology acquisition with the performance of SMMEs.

Sugawara and Liyanage (1999) found out that capital and human resources are the main obstacles to SMME's efforts in technology development. This suggests that SMMEs cannot ignore the importance of human resources if they want to acquire and exploit technology sufficiently. Madichie et al. (2019) suggest that, in addition to economic and technological factors, organisational factors such as knowledge and skills are required to acquire and exploit technology. In the context of hair salons, Madichie and colleagues indicate that lack of technological skills and financial constraints perhaps explain the limited use of recent technological resources in hair salons.

There are mainly two ways of getting skills in organisations. The organisation can either buy them (i.e. through recruitment) or make them (i.e. through training). We therefore submit that the ability-enhancing practices (e.g. hiring and training) explain (mediate) the relationship between technology acquisition and SMME performance. Training is the most rigorously studied HR practice in SMMEs (Sels et al., 2006), and the selection decision process is an important factor in determining talent in small businesses (Krishnan & Scullion, 2017).

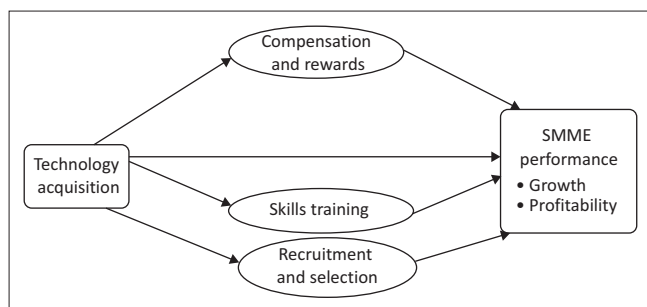
Overall, the HR literature suggests that HR practices have a direct impact on employee KSA, motivation and empowerment (Boon et al., 2019; Jiang et al., 2012; Sels et al., 2006), all of which are required to increase the performance of SMMEs. As external technology exploitation fully mediated the relationship between external technology acquisition and the process innovation performance of SMMEs (Charmjuree et al., 2021), we posit that HR practices explain the relationship between technology acquisition and SMME performance.

Besides the ability-enhancing practices (e.g. selection and training), employees need the motivation to exploit the acquired technology to guarantee the increased performance of firms. We there submit that motivation-enhancing practices such as compensation and rewards facilitate and mediate the relationship between technology acquisition and SMME performance.

In summary, we posit that technology acquisition facilitates the performance of certain HR practices such as recruitment, training and compensation, which in turn influence the performance of the SMME by enhancing skills and motivation of employees. Taken together, we submit that the relationship between technology acquisition and SMME performance is partially explained by the ability-enhancing and that motivation-enhancing HR practices. The existing theory and evidence bring us to the following hypothesis:

Hypothesis 2: The relationship between technology acquisition and performance of hair salons is mediated by (a) ability-enhancing practices and (b) motivation-enhancing practices in parallel.

The conceptual model is shown in Figure 1.



SMME, small, micro and medium enterprise.

FIGURE 1: The conceptual model.

Method

Research design and approach

A quantitative, deductive research design was used to address the hypotheses. We adopted this positivist approach because the study sought to relate one variable to another (Cooper & Schindler, 2014).

Target population, sample size and procedures

The setting of the study was the Mangaung Metropolitan Municipality in the Free State province, the hub of economic activity in the Central region of South Africa. The Free State Development Corporation (FDC) estimated that there were about 500 hair salons in the Mangaung Metropolitan Municipality at the time of study. Research assistants distributed self-administered questionnaires to a random sample of 150 hair salons selected from the targeted population. According to the guide provided by Sekaran and Bougie's (2016) statistical tables for determining the sample, this sample size was higher than the one required ($s = 80$) for the target population ($N = 500$). The response rate was 73% ($n = 110$).

There may be concerns that, by selecting one industry, the generalisability of the results may be limited. However, as suggested by Charmjuree et al. (2021), focusing on one industry ensures sufficient homogeneity because levels of technology acquisition, skills acquisition, compensation and recruitment traditions and practices may differ from one industry to another.

Ethical considerations

The purpose of the study was communicated to all participants. They were requested to fill the questionnaires anonymously, and confidentiality was guaranteed to all. They were further informed that they were free to participate in the study, and that non-participation would not affect their businesses. The data collected from the participants has been analysed in aggregated form and is not identifiable with any one particular business. Ethical clearance has been provided by Central University of Technology, Free State, FMSEC05/15.

Measures

We used data that were originally collected from a larger survey of hair salons using a self-developed questionnaire

that was tested for content validity (Madichie et al., 2019). The questionnaire items were derived from the extensive review of literature in technology acquisition, HRM and organisational performance to achieve content validity (Bryman & Bell, 2011).

Technology acquisition

This construct was measured with seven items. On a scale ranging from 1 (strongly disagree) to 5 (strongly agree), participants were asked to indicate the extent to which they agree with certain statements. Sample items included 'the business acquires the latest technology to keep up to date' and 'external funding enables the purchase of needed equipment'. The Cronbach's alpha of the scale was 0.92.

Motivation-enhancing human resource practices

Compensation was used to represent this construct. Even though nine items were used to measure compensation, only three items loaded significantly on the latent construct. Participants were requested to rate the extent to which they agreed with certain statements. Three items that loaded well on the scale were 'salaries are in accordance with labour markets standards', 'employee pay rates are kept confidential' and 'salary ranges are used to determine salary rates'. The Cronbach's alpha of the scale was 0.75.

Ability-enhancing human resource practices

This construct was represented by recruitment and selection and skills training and acquisition. Skills acquisition and training were further categorised into business skills training, entrepreneurial skills training and technical skills training. For recruitment and selection, the items included 'the business emphasises qualifications in its recruitment and selection process'; for business and entrepreneurial skills training, they included 'the business provides training on communication', 'employees have problem solving skills' and for technical skills training, they included 'the business gives training on computers'. The Cronbach's alphas of the scales were 0.89, 0.76 and 0.93 for recruitment and selection, business and entrepreneurial training and technical skills training, respectively.

Performance

We assessed the performance of hair salons by requesting the participants to answer questions tapping into the profitability and growth of their business. We decided to use this subjective approach because most SMMEs do not keep formal records of their financial transactions. Participants were requested to rate the financial profitability and growth of their businesses on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). A sample item for measurement of profitability was 'public funding has led to the growth of profit margin', and the one reflecting growth was 'public funding has led to an increase in the number of employees'. Note that we dropped the items that related to private funding so that the scale can correspond with public funding 'wording' used in the acquisition of technology concept.

When we factor analysed the items assessing profitability and growth, the items coalesced under one factor, which prompted us into combining all items into one measure of performance. The Cronbach's alpha of the scale was 0.98.

Controls

As characteristics such as age and size of the business have influence on SMME performance (Blackburn et al., 2013), we examined if these factors would not influence the results. We specifically included the form of business, age of business and the number of employees in this article.

The full set of items used to measure variables is shown in the appendix.

Data analysis

We used Statistical Package for Social Sciences (SPSS, v. 20) and Smart PLS 3 to analyse data. Specifically, we examined the convergent and discriminant validity of the model, zero-order correlations and multiple regression analysis and direct and indirect relationships amongst the latent constructs.

Compared to covariance-based SEM (CB-SEM), partial least squares structural equation modelling (PLS-SEM) (variance-based SEM) is appropriate where the focus of research is on prediction of key constructs; the sample size is small; the model consists of reflective and formative constructs; available data is non-normal and the model is exploratory in nature (Hair, Risher, Sarstedt, & Ringle, 2019; Hair, Ringle, & Sarstedt, 2011). We used PLS-SEM in this study because the sample size was small, and the model we tested was relatively new and our dataset was not normal. As indicated by Henseler, Ringle and Sinkovics (2009, p. 296), PLS-SEM is 'primarily intended for causal predictive analysis in situations of high complexity but low theoretical information'.

Because of the small sample size, we initially used sub-scales of skills acquisition (business skills acquisition, entrepreneurial skills acquisition and technical skills acquisitions) as indicators of the construct. Item parcelling into sub-scales is often used to reduce the number of indicators in a model (Baer, Oldham, & Cummings, 2003), especially when the sample size is small (Wang, Demerouti, & Blanc, 2017). As technical skills acquisition did not load on one latent construct with general business skills, we analysed them separately. Overall, indicators that did not load well on their intended constructs were dropped from analysis.

Partial least squares path modelling follows a two-step process involving the assessment of the outer (measurement) model and the assessment of the inner (structural) model (Henseler et al., 2009). The assessment of the outer model involves the assessment of the reliability and validity of the latent constructs. We evaluated the adequacy of the measurement model by assessing the convergent and discriminant validity (Hair et al., 2011; Hair, Matthews, Matthews, & Sarstedt, 2017).

Amongst other indicators, convergent validity is confirmed when all outer loadings are at least 0.7 and statistically significant; the average variance extracted (AVE, average amount of variation that a latent variable explains in the observed variable) is 0.50 or higher; and the composite reliability (CR) is 0.70 or higher (Hair et al., 2011; Khaola & Rambe, 2020; Rambe & Khaola, 2021).

To assess discriminant validity, either Fornell-Larker criterion or heterotrait-monotrait (HTMT) ratio of correlations can be used. As the Fornell-Larker criterion performs poorly in the assessment of discriminant validity when construct indicator loadings vary marginally (Hair et al., 2017); we relied on more reliable HTMT ratios of correlations to assess the discriminant validity (Hair et al., 2011, 2019; Musiiwa, Khaola, Rambe, & Chipunza, 2020). Discriminant validity is also indicated where HTMT is less than 0.85.

The assessment of the structural (inner) model, which shows the relationships (paths) between latent constructs (Hair et al., 2011), provides information on standardised betas, coefficient of determination (R^2) and significant levels (Henseler et al., 2009).

The following section focuses on results.

The results

Assessment of the measurement model

To assess the measurement model, we assessed the convergent and discriminant validity. The results of convergent validity are summarised in Table 1.

As shown in Table 1, all item loadings were 0.70 or higher, and they were all significant. Furthermore, each latent construct had the AVE and the CR figures that were higher than 0.50 and 0.70, respectively (Hair et al., 2019). Based on these results, we can conclude that there was convergent validity of constructs under study.

To assess the discriminant validity, we used the HTMT ratios of correlations. The results are shown in Table 2.

Table 2 shows that all the HTMT ratios of correlations were below the threshold of 0.85, suggesting that the constructs used in the study demonstrated sufficient discriminant validity.

Based on the reasonable adequacy of the measurement model, we proceeded to examine the hypothesised relationships. However, to have an overview of the basic relationships, we first examined the intercorrelations amongst the study variables. The correlations are shown in Table 3.

The zero-order correlations in Table 3 indicate that technology acquisition correlated positively with general business skills training ($r = 0.28, p < 0.01$), entrepreneurial skills training ($r = 0.54, p < 0.01$), technical skills training ($r = 0.54, p < 0.01$), compensation and rewards ($r = 0.56, p < 0.01$), recruitment

and selection ($r = 0.61, p < 0.01$) and SMME performance ($r = 0.54, p < 0.01$). In turn, all motivation – and ability-enhancing HR practices correlated positively and significantly to SMME performance. Specifically, SMME performance correlated positively to general business skills training ($r = 0.56, p < 0.01$), entrepreneurial skills training ($r = 0.52, p < 0.01$), technical skills training ($r = 0.69, p < 0.01$), compensation and rewards ($r = 0.38, p < 0.01$) and recruitment and selection ($r = 0.56, p < 0.01$).

As could be expected, Table 3 shows strong correlations amongst skills training concepts, with correlation coefficients ranging from 0.68 to 0.91. Similarly, the correlations amongst HR concepts ranged from moderate to very high.

TABLE 1: Results of model's convergent validity.

Constructs	Item/dimension	Outer loadings	AVE	CR	α
Technology acquisition	Techacquis1	0.846	0.665	0.933	0.918
	Techacquis2	0.844	-	-	-
	Techacquis3	0.749	-	-	-
	Techacquis4	0.846	-	-	-
	Techacquis5	0.845	-	-	-
	Techacquis6	0.842	-	-	-
	Techacquis7	0.851	-	-	-
Compensation and rewards	Comp1	0.826	0.666	0.856	0.753
	Comp7	0.884	-	-	-
	Comp9	0.731	-	-	-
Recruitment and selection	Recruit1	0.800	0.606	0.915	0.892
	Recruit2	0.758	-	-	-
	Recruit3	0.777	-	-	-
	Recruit4	0.770	-	-	-
	Recruit5	0.752	-	-	-
	Recruit10	0.763	-	-	-
	Recruit11	0.824	-	-	-
Technical skills acquisition	Techskill1	0.951	0.877	0.955	0.929
	Techskill2	0.965	-	-	-
	Techskill3	0.892	-	-	-
SMME performance	Pubfundgrowth1	0.935	0.883	0.984	0.981
	Pubfundgrowth2	0.939	-	-	-
	Pubfundgrowth3	0.956	-	-	-
	Pubfundgrowth4	0.942	-	-	-
	Pubfundprofit1	0.915	-	-	-
	Pubfundprofit2	0.961	-	-	-
	Pubfundprofit3	0.946	-	-	-
	Pubfundprofit4	0.823	-	-	-

AVE, average variance extracted; CR, composite reliability; SMME, small, micro and medium enterprise.

TABLE 3: Intercorrelations amongst study variable.

Variable	1	2	3	4	5	6	7	8	9
Form of business	-	-	-	-	-	-	-	-	-
Number of employees	0.357**	-	-	-	-	-	-	-	-
Years of operation	0.209*	0.538**	-	-	-	-	-	-	-
Business skills acquisition	0.139	0.342**	0.193*	-	-	-	-	-	-
Entrepreneurial skills acquisition	0.108	0.292**	0.209*	0.911**	-	-	-	-	-
Technical skills acquisition	0.223*	0.398**	0.355**	0.717**	0.677**	-	-	-	-
Compensation and rewards	-0.112	0.040	-0.044	0.440**	0.475**	0.356**	-	-	-
Technology acquisition	0.008	0.178	0.151	0.281**	0.542**	0.543**	0.561**	-	-
Recruitment and Selection	0.117	0.272**	0.242*	0.689**	0.696**	0.685**	0.619**	0.607**	-
SMME performance	0.074	0.268**	0.294**	0.556**	0.524**	0.686**	0.375**	0.543**	0.555**

SMME, small, micro and medium enterprise.

*, $p < 0.05$; **, $p < 0.01$.

Note: Numbers on the first row refer to corresponding variables on the first column.

Whilst the form of business did not have any relationships with the SMME performance ($r = 0.07, p > 0.05$), the number of employees ($r = 0.27, p < 0.01$) and the number of years in operation ($r = 0.29, p < 0.01$) had positive and significant correlations with SMME performance. These results intimate that SMMEs with many employees or greater number of years in operations were more likely to perform better. To examine whether the relationships between these control variables and the criterion variable were spurious or real, we conducted multiple regression analysis. The results of multiple regression analysis are shown in Table 4.

After controlling for other variables, none of the control variables related significantly with the criterion (dependent) variable. Following the recommendations of Becker et al. (2016), we dropped control variables in the assessment of the structural model. These authorities warn against the inclusion of control variables where they are not related to the criterion variable, arguing that their use can produce uninterpretable parameter estimates, erroneous inferences and nonreplicable results.

Assessment of the structural model

We used PLS-SEM to assess the structural model. The structural (inner) model shows the relationships (paths) between the latent constructs (Hair et al., 2011). The results of the structural model are shown in Figure 2.

The study examined the influence of technology on the performance of hair salons because of the critical role of adopting the latest technologies and innovations in the success of hairdressing and beauty sectors. Hanclova et al. (2015) contend that the acquisition of modern technologies

TABLE 2: Heterotrait-monotrait ratios of construct correlations.

Variables	1	2	3	4	5
Compensation	-	-	-	-	-
Recruitment and selection	0.765	-	-	-	-
SMME performance	0.427	0.610	-	-	-
Skills acquisition	0.298	0.697	0.734	-	-
Technology acquisition	0.707	0.681	0.543	0.529	-

SMME, small, micro and medium enterprise.

Note: Numbers on the first row refer to corresponding variables on the first column.

TABLE 4: Regression analysis results.

Variable	Standardised beta	<i>t</i>	<i>p</i>
Form of business	-0.025	-0.308	0.759
Number of employees	-0.054	-0.566	0.573
Years of operation	0.109	1.192	0.236
Business skills acquisition	0.083	0.0406	0.686
Entrepreneurial skills acquisition	-0.028	-0.146	0.884
Technical skills acquisition	0.482	3.983	0.000
Compensation and rewards	0.036	0.343	0.733
Technology acquisition	0.211	2.171	0.032
Recruitment and selection	0.030	0.241	0.810

increases the hair salons' access global and new markets, opens communication channels with other hair salons and allows them to retain their competitive market position in the economy. Despite the overwhelming evidence on the capacity of the latest technologies to increase the sales, profitability and return on investments of hair salons (Duan, Han, & Yang, 2009; Labonte, 2015; Madichie et al., 2019), most hair salons often rely on outdated and inefficient technologies (Mpiti & Rambe, 2016).

The results indicate that technology acquisition significantly predicted recruitment and selection ($\beta = 0.631, p < 0.01$), compensation and rewards ($\beta = 0.587, p < 0.01$), skills acquisition or training ($\beta = 0.509, p < 0.01$) and SMME performance ($\beta = 0.192, p < 0.05$).

Overall, the results suggest that higher levels of technology acquisition were associated with effectiveness in hiring, compensation, technical skills training and SMME performance (growth and profitability). The relations between technology acquisition and skills acquisition are counterintuitive and hence were not expected.

The results show further that compensation and rewards did not have any significant impact on SMME performance ($\beta = 0.122, p > 0.05$). Similarly, recruitment and selection failed to predict performance ($\beta = 0.026, p > 0.05$). Technical skills acquisition or training positively predicted performance ($\beta = 0.557, p < 0.01$). Interestingly, when we replaced technical skills training with general business skills training (Figure 3), the results became counterintuitive in that technology acquisition lowered general business skills acquisition ($\beta = -0.283, p < 0.01$), and in turn, general business skill training negatively affected SMME performance ($\beta = -0.275, p < 0.01$). In this latter model, recruitment and selection positively and significantly predicted SMME performance ($\beta = 0.307, p < 0.01$). We provide possible reasons for these counterintuitive results in the discussion section.

Assessment of mediated effects

The examination of mediation in PLS-SEM requires at least three steps, namely the assessment of total effects, the assessment of total indirect effects and the assessment of specific indirect effects. The summary of relevant results from the PLS-SEM bootstrapping analysis results is shown in Table 5.

As shown in Table 5, apart from the relationship between compensation and SMME performance and recruitment and SMME performance, the total effects of all relationships were significant, including the one between technology acquisition and SMME performance (*t*-values with *p*-values less than 0.01, and confidence intervals that did not cross zero). The significant total effect of technology acquisition-SMME performance relationship confirms that technology acquisition was an important factor in facilitating increased SMME performance.

Furthermore, the unpacking of total effects revealed that the total indirect effects of technology acquisition on SMME performance were also significant, suggesting the presence of one or more mediating factors.

As indicated by the specific indirect effects, the relationship between technology acquisition and SMME performance was mediated by technical skills acquisition (effect = 0.283, $t = 4.769, p < 0.01$) but not recruitment and selection (effect = 0.0016, $t = 0.254, p = 0.800$) or compensation (effect = 0.072, $t = 1.097, p = 0.273$).

As technology acquisition also had some significant direct effects on SMME performance (effect = 0.192, $p < 0.05$), the relationship between technology acquisition and SMME performance was partially mediated by technical skills acquisition.

When we replaced technical skills acquisition with general business skills acquisition, we found that the latter negatively mediated the relationship between technology acquisition and SMME performance (effect = 0.078, $t = 2.557, p = 0.011$), intimating that general business skills training reduces the effects of technology acquisition on performance.

In summary, the results support the proposition that the relationship between technology acquisition and SMME performance was mediated by some elements of the ability-enhancing HR practices (skills acquisition), but reject the proposition that such relationship is mediated by motivation-enhancing HR practices (compensation and rewards). It also emerges that technical skills training is more important than general business skills training in hair salons. These results provide partial support to hypothesis 2.

Discussion

The studies based on hair salons are scanty in the literature (Madichie et al., 2019), and those on HRM in SMMEs are only beginning to emerge strongly in the literature (Krishnan & Scullion, 2017; Potgieter & Mokomane, 2020). The purpose of the current study was to explore the mechanism through which technology acquisition affects the performance of hair salons in the Mangaung Metropolitan Municipality in the Free State province of South Africa. The combination of technology and HR

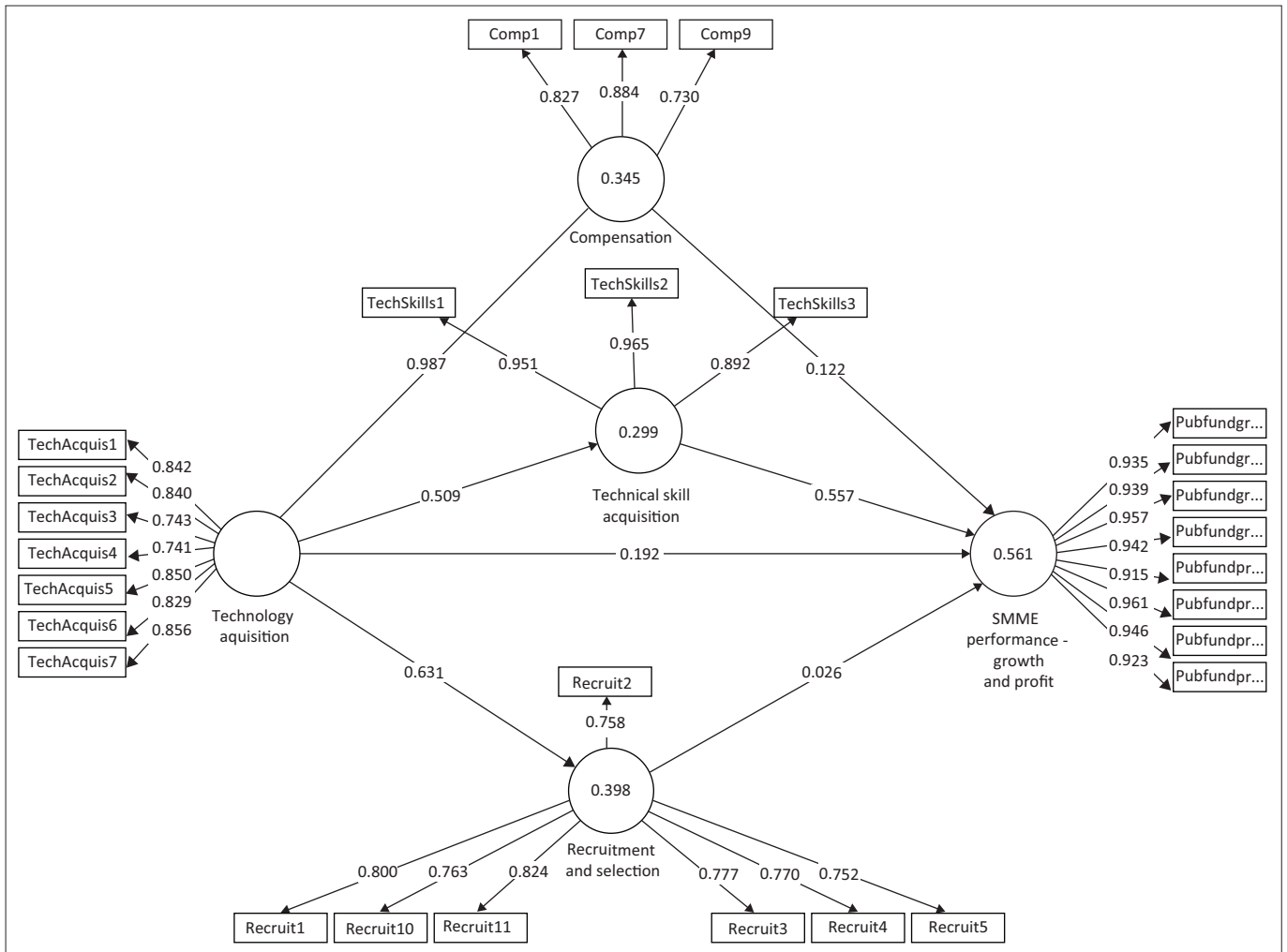


FIGURE 2: The results of the structural model.

practices in the study of hair salons is, to our knowledge, novel and has the potential to contribute immensely to existing literature.

The results confirm the positive relationship between technology acquisition and the performance of hair salons. This not only supports several prior studies within the context of SMMEs (Charmjuree et al., 2021; Kooli-Chabane et al., 2014; Madichie et al., 2019; Mallinguh et al., 2020; Rambe & Khaola, 2021) but also shows that even the neglected sections of SMMEs such as hair salons can benefit from acquisition and exploitation of technology. Through technology acquisition and exploitation, SMMEs can improve the knowledge of their workforce and process innovation performance, which would plausibly improve the productivity and competitiveness of SMMEs (Charmjuree et al., 2021; Rambe & Khaola, 2021).

We hypothesised and tested the capacity of HR practices to mediate the relationship between technology acquisition and the performance of hair salons. Our results show that the motivation-enhancing practice (i.e. compensation) did not explain the relationship between technology acquisition and performance. This does not, however, imply that either compensation or motivation is not important for the

performance of SMMEs. Two reasons may explain why compensation did not affect performance in this study. Firstly, it may be that salaries in hair salons are not high enough to motivate employees. As suggested by Gehart and Rynes (2003), paying employees above the industry average may motivate employees and vice versa. Secondly, our measure of compensation was based on traditional measures that focus on salaries and issues of equity. Yet, the HR literature suggests that compensation must be contingent on performance to have the incentive effects we predicted in this study (Boon et al., 2019). It may be that the non-significant effects related more to how we measured compensation rather than the ineffectiveness of compensation or motivation in bolstering of performance per se.

The mediating effects of the ability-enhancing practices (i.e. recruitment and training) were fascinating. When technical skills training was included in the model, it mediated the relationship between technology acquisition and performance positively, but once we replaced technical skills training with business skills training, the latter mediated the relationship negatively.

We provide the following possible explanations for these results. It is possible that in certain SMMEs like hair salons,

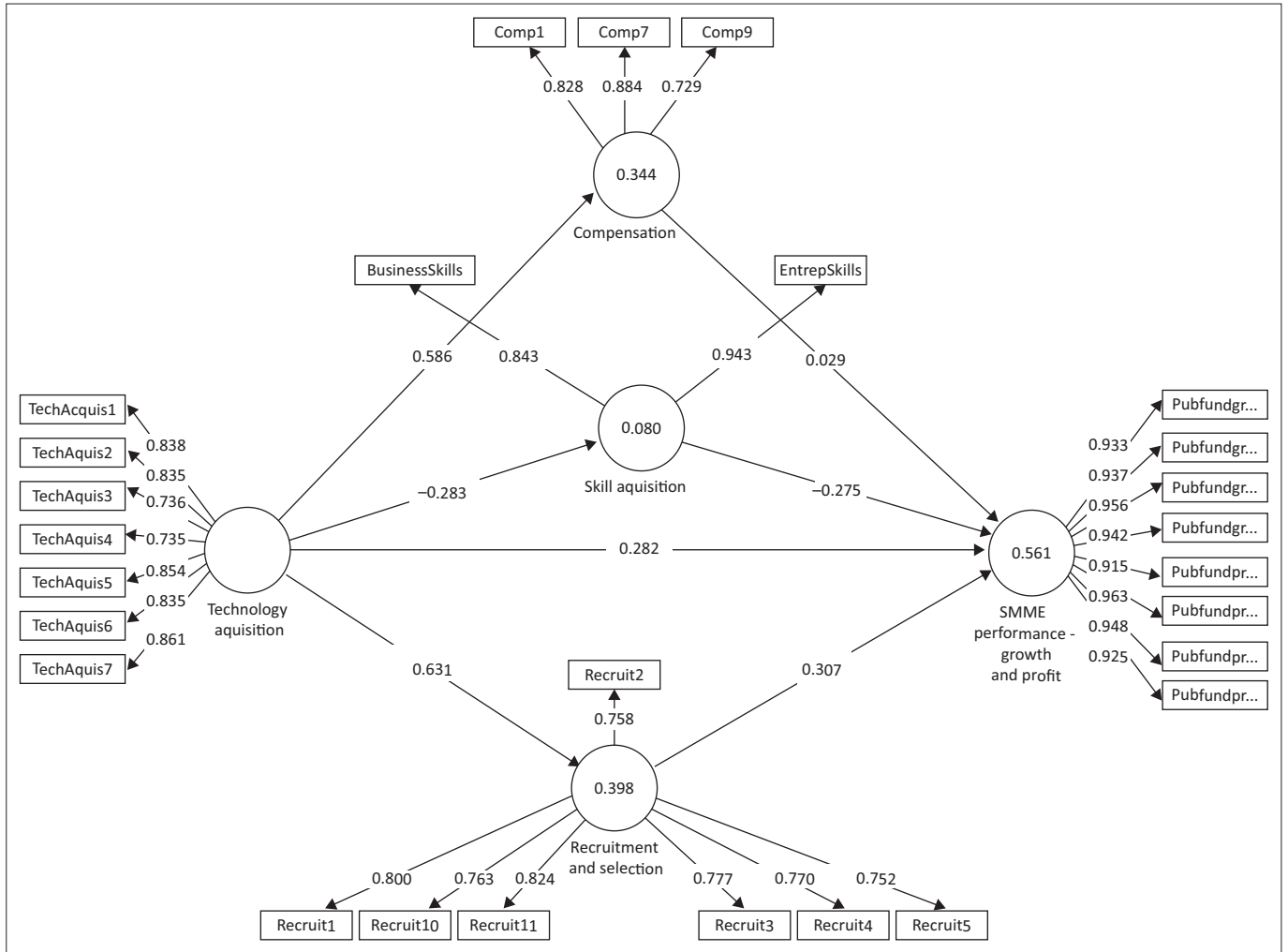


FIGURE 3: The results of the structural model when technical skills are replaced by general business skills.

TABLE 5: Summary of the total, total indirect and specific indirect effects.

Type	Relationship	Effect	t	p	95% bias-corrected confidence interval	
					2.5%	2.97%
Total effects	Compensation >>>>> SMME performance	0.122	1.104	0.270	0.105	0.329
	Recruitment >>>>> SMME performance	0.026	0.261	0.794	-0.156	0.228
	Technical Skills acquisition >>>>> SMME performance	0.557	6.303	0.000	0.390	0.737
	Technology acquisition >>>>>>> Compensation	0.587	8.131	0.000	0.382	0.703
	Technology acquisition >>>>>>> Recruitment	0.631	13.514	0.000	0.498	0.704
	Technology acquisition >>>>>>> Technical skills acquisition	0.564	8.636	0.000	0.397	0.662
	Technology acquisition >>>>>>> SMME performance	0.509	8.026	0.000	0.379	0.624
Total indirect effects	Technology acquisition >>>>>>> SMME performance	0.372	4.568	0.000	0.234	0.536
Specific indirect effects	Technology acquisition>>>Compensation>>> performance	0.072	1.097	0.273	-0.055	0.197
	Technology acquisition>>>Recruitment>>> performance	0.016	2.254	0.004	-0.102	0.142
	Technology acquisition>>Techs skills acquisition>> performance	0.283	4.769	0.000	0.180	0.399

SMME, small, micro and medium enterprise.

training to acquire general business skills such as communication, planning and leadership is not as important as training to acquire technical skills such as the use of electric clippers, sanitisers and computers. Krishnan and Scullion (2017) submit that technical skills and work ethic play a greater role in the selection process of small businesses. It may be that investing in general business skill acquisition at the expense of technical skills acquisition negatively affects performance because it reduces cash flows and liquidity, all

of which are critical to the success of hair salons (Madichie et al., 2019). Whilst both technical skills training and general business training are important for SMMEs, the payback period for investment in the former is arguably shorter than in the latter.

The results of our study therefore reject the ‘best-practices’ approach to HRM and, in this case, training. They support the contingency approach because, on the face of it, training

and talent management in large businesses may be different from the same practices in small businesses. Future studies can benefit from evaluating why technical skills training was more useful in hair salons than general business skills training.

Practical implications

This study provides some implications for policymakers and practitioners of hair salons. First, as shown by our results, owner-managers may be advised that acquiring new technology in their hair salons could improve their performance, particularly their profitability and growth outcomes. It is true that acquiring new technology may be costly, but the results of our study show that such investment is worthwhile. As indicated by Madichie et al. (2019), public funding may make it possible for hair salons to acquire new technologies. In this regard, institutions responsible for the growth of SMMEs could finance hair salons to acquire and utilise new technologies. Secondly, hair salons should continually give training to their employees to acquire technical skills. As suggested by our results, technical skills training mediates (explains) the positive relationship between technology acquisition and the performance of hair salons. Thus, in addition to acquisition of technology, policymakers can set aside some funds to finance targeted technical training of employees in hair salons. Because employees in SMMEs may not have time to attend formal training sessions (Hanclova et al., 2015; Madichie et al., 2019), we recommend informal on-the-job training in their business premises. We hope that these recommendations can improve the performance of hair salons and finally contribute to the economy of South Africa.

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Competing interests

Authors have declared that no competing interest exists.

Authors' contributions

The main author contributed on the write-up of the article, one of the co-author contributed with data collection for the article. The last co-author contributed with the data analysis of the article.

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Data availability

The data is based on a larger study that formed part of the second author's dissertation. This dataset can be provided upon request.

Disclaimer

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Appendix A: Items used to measure variables as measured from strong disagree to strongly agree

Technology acquisition

- Technology helps to do daily activities in the company.
- Acquire the latest technology to keep up to date.
- Use new technology to adapt daily routines.
- Technology makes one's job easier.
- Public funding helps to acquire latest technology.
- Public funding enables purchase of needed equipment.
- Public funding helps to keep up to date with latest technology.

Recruitment and Selection

- Someone is responsible for human resources in the business.
- We recruit, select, appoint, train and develop human resources.
- Business emphasizes qualification on its recruitment and selection.
- Business emphasizes relevant experience when recruiting and appointing.
- Business emphasizes knowledge of hair salon.
- Reference checks are part of recruitment.
- Possess overall knowledge of HR recruitment process.

Compensation

- Salaries are in accordance to labour market standards.
- Employee pay rates are kept confidential.
- Salary ranges are used to determine salary rates.

General Business Skills' acquisition and Entrepreneurial Skills Training

- Business gives training on communication skill.
- Business gives training on leadership skill.

- Business gives training on management skill.
- Business gives training on organisational skill.
- Business gives training on interpersonal skill.
- Employees have good listening and speaking skill.
- Employees are able to make good business decision.
- Employees are able to adapt to change.
- Employees are able to plan their goals and reach the.
- Employees are able to interact with other people.
- Employees undergo training in business skill.
- Employees undergo training on business planning skill.
- Employees undergo training on business communication skill.
- Employees undergo training on customer service.
- Employees are able to use effective cross-cultural communication skill.
- Employees have problem solving skills.
- Employees ensure effective delivery of products and services to customers.

Technical Skills Training

- Business gives training on computer as well as computer language.
- Business gives training on data analysis.
- Employees have technical knowledge.

Hair Salon performance – growth and profit

- Public funding has led to growth of business.
- Public funding helped the business to meets its financial target.
- Public funding has led to the increase in gross profit margin.
- Public funding has led to the generation of profit income.
- Public funding has helped business to grow.
- Employee numbers has increased in the past 5 years because of public funding.
- Public funding has led to the increase in return on investment.
- Public funding has led to increase in profit.