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Article

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Cogent Business & Management

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Suggested Citation: Bekata, Aklilu Tukela; Kero, Chalchissa Amentie (2024) : Customer orientation, open innovation and enterprise performance, evidence from Ethiopian SMEs, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 11, Iss. 1, pp. 1-23, <https://doi.org/10.1080/23311975.2024.2320462>

This Version is available at:

<https://hdl.handle.net/10419/326100>

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To cite this article: Aklilu Tukela Bekata & Chalchissa Amentie Kero (2024) Customer orientation, open innovation and enterprise performance, evidence from Ethiopian SMEs, Cogent Business & Management, 11:1, 2320462, DOI: [10.1080/23311975.2024.2320462](https://doi.org/10.1080/23311975.2024.2320462)

To link to this article: <https://doi.org/10.1080/23311975.2024.2320462>



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Published online: 05 Mar 2024.



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Customer orientation, open innovation and enterprise performance, evidence from Ethiopian SMEs

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ABSTRACT

The objective of this study was to examine the significance of customer-orientation for open innovation and performance of the SMEs. Explanatory research design and multi-stage sampling were used to acquire both primary and secondary data from the study area. The study used structural equation modeling (SEM) to examine the data and research hypotheses in the suggested structural regression model based on the empirical data of 321 SMEs operating in the study area. The SEM results indicated that small and medium-sized enterprises with higher level of customer orientation are more innovative in their performance. The findings also showed that open innovation partially mediated the relationship between consumer orientation and enterprise performance. Hence, the study found that customer orientation creates better value through open innovation, having an indirect effect on the performance of SMEs. The study's findings suggest that enterprise performance can be realized by implementing business strategies that prioritize customer requirements and satisfaction. SMEs can leverage customer insights to create customer-focused innovation strategies that spread acquired knowledge and new ideas throughout internal decision-making processes, ultimately enhancing open innovation and performance of SMEs.

ARTICLE HISTORY

Received 21 March 2023
Revised 12 February 2024
Accepted 14 February 2024

KEYWORDS

Customer orientation; enterprise performance; open innovation; small & medium enterprise; structural equation modeling; Hawassa city

REVIEWING EDITOR

Job Rodrigo-Alarcón, Associate Editor, University of Castilla-La Mancha: Universidad de Castilla-La Mancha, Spain

SUBJECTS

Entrepreneurship and Small Business Management; Marketing; Strategic Management; Management of Technology & Innovation

Introduction

Small and medium-sized businesses (SMEs) are a major source of employment, income, and innovation (ADB, 2019; Akhtar et al., 2021; Ali et al., 2020; Kiani et al., 2019). Every nation's economic development depends heavily on innovation (Rasheed et al., 2020). Therefore, the success of performance of the SMEs is critical to national development (Kamalaldin et al., 2021). Hence, for emerging economies to stay competitive, they must encourage innovation among their small and medium-sized enterprises (Kiani et al., 2019).

As a result, countries are looking for strategic and innovative ways to empower their SMEs to ensure economic sustainability (Yang et al., 2022). Customer focused strategies and innovation are critically determining sustainability of SMEs (Kiani et al., 2019). Researches show that innovation has a significant impact on financial growth, customer satisfaction, and operational performance of a business (Olowofeso et al., 2021; Rajapathirana & Hui, 2018). Moreover, Innovation plays a strategic role for a business in ensuring superior performance (Forcadell et al., 2021; Rajapathirana & Hui, 2018; Saunila, 2020).

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Prior researches also identified that customer knowledge as a key determinant of innovation (Ali et al., 2020; Carvache-Franco et al., 2022; D'souza et al., 2021; Kim 2017). Innovation of SMEs can be improved by strengthening customer orientation such as giving more time to listen to customer opinions (Hutahayan & Wahyono, 2021). Tuominen et al., (2022) indicated that firms can learn from customers and using their ideas to decision-making process contribute to firm innovativeness and business growth.

Customer orientation provides the ability to understand and develop the product and process to fulfill the customer's expectation for greater company performance (Han & Zhang, 2021). According to RBV theory, customer-oriented approaches are valuable, unique, inimitable, and non-substitutable resources that enables the businesses to find innovative ways to boost success rates in the market (Ali et al., 2020; Lonial & Carter, 2015). customer orientation enhances innovativeness of SMEs (Akhtar et al., 2021; Kamalaldin et al., 2021; Tuominen et al., 2022). The research gaps are identified as:

First, the findings of these studies are inconclusive, on how customer orientation affects business performance is controversial and contradictory to justify generalizations (Ramírez-Solis et al., 2022). Johnson and Sohi's research (2020) stressed the significance of customer orientation in influencing market performance. Some prior studies showed an insignificant influence of customer-oriented strategy on product innovation success (Abid & Gulzar, 2018). Ighomereho et al. (2022), Utami and Nuvriasari (2023), and Zulfikar (2019) also found insignificant relationship between customer orientation and performance. Furthermore some studies find that market orientation particularly, customer orientation does not directly influence performance (Dionysus & Arifin, 2020; Tuominen et al., 2022; Hutahayan & Wahyono, 2021). Hence, results on the relationship between customer orientation and innovative performance show conflicting results and contradictory to justify generalizations.

Second, researchers also recommend further investigation of the contingency variables between the customer orientation and performance (Lumpkin & Dess, 1996; Maaodhah et al., 2021). Moreover, in empirical studies showing the relationship between customer orientation and enterprise performance, mediators can reveal the rationale in the link between the two variables; reduces the misleading effect and allows a more accurate and concrete understanding of the underlying relationships (LIU, 2011).

Previous researches have shown that both internal and external sources of funding, ideas, knowledge and methods are critical to ensuring innovative performance and delivering greater value to customers (Naqshbandi & Jasimuddin, 2022). Hence, incorporating mediator factors, open innovation, and financial management practice into the link support innovative behavior, and validates the mediation effect suggested by earlier research in improving the strategic orientation-innovative performance. Furthermore, no empirical research on the mediating roles of open innovation in the relation between SMEs performance and customer orientation. Last but not the least, previous research on customer orientation, and open innovation concentrated mostly on large, high-tech companies that operate in developed countries (Hailu, 2019; Kiiru, 2015; Lee et al., 2010).

The objective of this study was to empirically analyze the relationship between customer orientation and innovative performance with the mediating roles of open innovation of SMEs operating in Hawassa, Ethiopia. This has created a need to develop new systems to enhance customer focused strategic perspective and innovativeness of SMEs, which benefit not only SMEs but also the economy as a whole. Hence, it is anticipated that it contributes to both the theory and practice of the strategic perspective and innovation framework.

2. Theoretical, empirical and conceptual hypothesis development

2.1. Resource based theory

According to the theory of resources, organizational performance differences are caused by resources (Peteraf, 1993). It is thought that the main tenet of resource-based theory is that companies compete with one another based on their resources and skills. This approach emphasizes the importance of resources in establishing a competitive edge. Resources comprise both tangible and intangible assets controlled by the business, such as strategies and innovations skills (Barney, 1991). The significance of valuable and unique resources to create superior performance were heavily emphasized by the resource-based view (Khana et al., 2020; Tsai & Wang, 2017).

According to RBV theory, market-oriented techniques are valuable, rare, imperfectly imitable and non-substitutable that has helped businesses improve their performance (Al Marzooqi & Abdulla, 2020; Kiessling et al., 2016). Customer orientation makes it feasible to comprehend and develop the process and product to fulfill the customer's expectations for greater business success (Han & Zhang, 2021). In order to develop and capture opportunities, a business activity needs to be connected to resources like customer knowledge, and ideas (Teece, 2014). External Customer knowledge, ideas and information enable internal attempts to strengthen open innovation.

Hence, it enables one to comprehend the market and modify their products or processes to stay innovative (Akhtar et al., 2021; Zhang & Merchant, 2020). In order to meet the customer's expectations for improved business performance, customer orientation makes it possible to comprehend and develop the product and process (Han & Zhang, 2021).

2.2. *Dynamic capabilities theory*

An organization's dynamic capability is its capacity to sense, seize and transform internal and external resources to respond to dynamic environment (Teece et al., 1997; Teece, 2014). While the resource-based strategy is focused on issues connected to the company's current resources, the dynamic capabilities is oriented on the transformation of existing resources as well as the creation of new ones (Schilke 2014). According to the dynamic capability theory, businesses with high dynamic capacities perform better than those with low dynamic capacities.

Pundziene et al., (2021) study indicated that the foundation of innovation is provided by dynamic capabilities, which are in charge of realigning the business's organization capabilities and culture to promote new knowledge and ideas. SMEs managers not only allocate resources but also recognize, shape, and seize new business opportunities to enhance innovation capacities and new market.

Bogers et al., (2019) combined dynamic talents (sensing, seizing, and transforming) with open innovation strategies. Sensing, seizing, and transforming capabilities help businesses search, use and evaluate crucial outside information, particularly customer information. Moreover, prior researches open innovation plays critical role transform knowledge, information, and ideas into improved products, processes, marketing, and management innovative output (Ali et al., 2020; Saunila, 2020; Zhang & Merchant, 2020). By exploiting these three dynamic feature sets, organizations can develop their open innovation (Bogers et al., 2019).

According to academics, firms must investigate, transform, and use both internal and external knowledge to better the outcomes of innovation (Naqshbandi et al., 2018). In light of this, it is crucial for SMEs to investigate, transform, and use customer knowledge and ideas in an open and integrated culture to capitalize on their innovative behavior (Gao et al., 2008; Naqshbandi & Jasimuddin, 2022). This involves increasing customer involvement in innovation process, which boosts innovativeness and performance (Pundziene et al. 2021; Tuominen et al., 2022).

2.3. *The effect of customer orientation on enterprise performance*

Customer orientation is a guiding principle or strategy that focus on customer information to meet their demands. Customer orientation focuses on how a business should understand customers' needs and expectations and provide superior value through acquiring customer knowledge; formulating and disseminating customer-focused strategies; and responsiveness to the potential market (Jeong et al., 2006; Yang et al., 2022, p.5). Putting customers at the center of the strategic point is what customer orientation emphasizes as a way to achieve better business results (Wang, 2016). As emphasized by Nasir et al., (2017) businesses need to focus more on target client groups and interact with them personally.

Research on the suggested categorization that takes consumer orientation into account has produced inconsistent results regarding performance (Narver et al 2004). It said that a business that considers customer orientation is reactive, delaying decision-making until it ascertains the known and expressed needs and preferences (Wanjiru & Wambugu, 2022). However, other studies indicated that customer-oriented businesses are better able to recognize the requirements and desires of their clients

and approach them directly to satisfy them, which eventually leads to greater customer value creation and delivery and increases businesses' ability to compete (Baker & Sinkula, 2009; Hilman & Kaliappen, 2014).

For SMEs to increase their chance of expanding their product lines and gaining a competitive edge, they must depend more on satisfying customer needs (Feng et al., 2019). According to findings from past studies, focusing on the customer has a favorable impact on both the quality of service and the level of innovation in manufacturing and service organizations (Wang, 2016). Customer orientation has the biggest significant impact on innovation performance (Jiménez-Zarco et al., 2011).

Hypothesis 1: Customer orientation has positive effect on innovative performance of Hawassa SMEs in Ethiopia

2.4. The effect of customer orientation on open innovation of SMEs in Hawassa

Innovation is the creation and application of novel or improved concepts, products, services, and procedures (Rasheed et al., 2020). According to Hurley and Hult (2008), innovation is made up of two components: the capacity to innovate and innovativeness. The ability of the firm to successfully adapt or use novel concepts, procedures, and/or goods and services is referred to as its innovation capacity. An organization's culture that pertains to its openness to novel concepts is referred to be innovative. This research primarily focuses on the component of open innovation capacity while the link between customer orientation and innovativeness part was investigated in prior study (Tuominen et al., 2022).

Customer orientation can be considered as searching for customer information, ideas, expectations and preferences that use for developing new products and improving existing products' features, quality, and price (Voss & Voss, 2008). Businesses can enhance their capabilities and perform innovation activities by getting ideas from customers and having access to information about how markets are growing (Kiani et al., 2019; Walter et al., 2001). Customers are an external source of knowledge that can be used in the processes of innovation. Hence businesses obtain customer ideas and integrate them with the existing internal knowledge, transforming them into new ones (Bogers et al., 2019).

The company's ability to accommodate customer preferences may boost open innovation, product development, and operations (Brockman et al., 2012). According to Salunke et al. (2019), customer knowledge positively influences the success of outside-in open innovation; hence, businesses must share knowledge, ideas, and information with customers. Consequently, it has been proposed that strategic orientation is a fundamental component influencing open innovation (Wilden et al., 2016).

Hypothesis 2: Customer orientation significantly influences open innovation of Hawassa SMEs in Ethiopia.

2.5. The effect of open innovation on enterprise performance in SMEs

Innovation does, in fact, positively correlate with organizational performance (Behnam & Cagliano, 2019). In the context of small enterprises, existing studies found a positive association between innovation and company performance (O'Cass & Sok, 2014; Oura et al., 2016; Zhang & Hartley, 2018). Innovation encompasses several elements such as creativity, novel procedures, improved process, improved offerings, and cutting-edge technologies (Cozzarin, 2017). Hence, innovative contribute to superior performance (Tutar et al., 2015). A high capacity to ensure a significant change and preferable improvements to products, services, or processes results in superior performance (Nasir et al., 2017).

Innovation is the development of products or services that are novel or significantly enhanced in terms of their features or intended applications (OECD, 2005). Therefore, the community that uses the value that will transform communities' lives in novel ways is the primary objective of company concept creation. One of the primary themes in open innovation is the ability of businesses to identify or seek

for external sources of invention by working with a wide set of external stakeholders (Naqshbandi & Jasimuddin, 2022). According to Ritala et al. (2015), the performance of innovation is favorably correlated with external knowledge-sharing. To improve the results of open innovation, internal cooperation in the innovation process involves the acquisition, abstraction, and integration of concepts and solutions. Additionally, an empowering leadership style stimulates employee participation in wise decision-making, which improves a firm's effectiveness in inbound open innovation (Naqshbandi et al., 2018).

Thus, Behnam and Cagliano (2019) proposed that innovations have a favorable impact on market performance. Open process innovation, which enables SMEs to acquire a cost advantage that boosts the company's efficiency (Rasheed et al., 2020). Hence, SMEs can expand and take on leadership roles in their industries with the aid of process-level open innovation.

Hypothesis 4: Open innovation has significant influence on the performance of Hawassa SMEs in Ethiopia.

2.6. The mediating effect of open innovation

The customer orientation encourages businesses to collaborate with customers enhances innovation in order to satisfy clients' expectations for higher levels of business performance (Han & Zhang, 2021). Access to customer information and solicit suggestions from customers allows business to develop innovative performance through innovativeness, coming up with creative ideas, and providing immediate response (Parente et al., 2018; Tuominen et al., 2022). A customer focused firm influences enterprise performance in an indirect way (Kim, 2017). Additionally, Akhtar et al. (2021) proposed that customer orientation influences product and service innovation in the manufacturing and servicing industries both directly and indirectly (Wang, 2016).

Hypothesis 6: Open Innovation mediate the relationship between customer orientation and performance of Hawassa SMEs in Ethiopia (Figure 1).

3. Methodology

3.1. Research design

A research design implies plans and the procedure of specific research and it includes the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation (Taherdoost, 2022). Explanatory research design was applied for this study due to the purpose of the study. Moreover, the

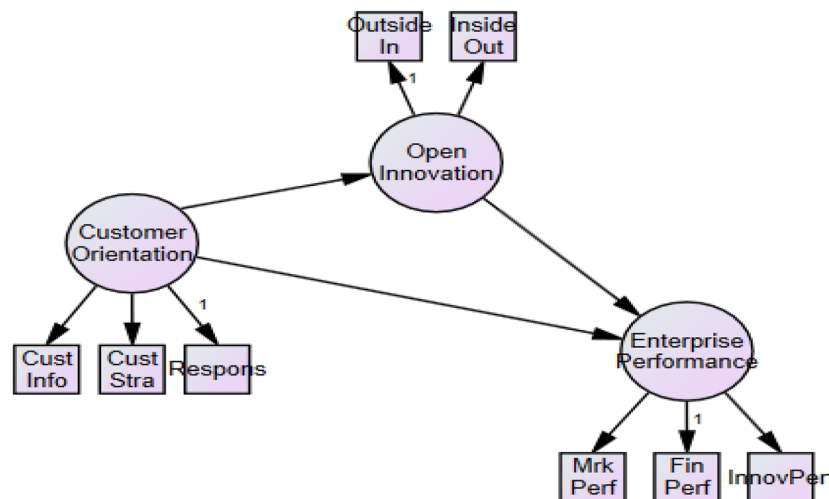


Figure 1. Conceptual model. Sources: Modified from (Tuominen et al., 2022).

selection of the research design for this study is justified by the nature of the research, which includes the research topic and analysis techniques that provide strong evidence to verify proposed hypothesis (Asenahabi, 2019). In order to comprehend the significance of strategic orientation for innovative capabilities and performance, it is important to verify the conceptual model and hypothesis that has been developed (Asenahabi, 2019; Tuominen et al., 2022).

A cross-sectional field survey quantitative approach was employed to investigate the proposed hypotheses. The most popular form of survey design used in social research is cross-sectional survey design (Rindfleisch et al., 2008). Hence due to the nature of study this study was employed cross-sectional research design.

3.2. Target population of the study

The entire population of SMEs that operating in study area is the study's target population. This study focuses on the business activities of small and medium enterprises in Hawassa City. Therefore, the target population of this study was the MSEs of manufacturing industry and service sub-sectors. According to the inventory report of Hawassa City job and skill development department, 1,623 SMEs were established and put into operation in manufacturing and service sectors during the year. The study focused on businesses that had been in operation over the past three years. Therefore, its target population is 1623 SME managers or owners.

3.3. Sample size and sampling technique and frame

Sample size is the appropriate proportion of the target study group that would provide information in the study enabling to generalize about the target group (Creswell, 2012). Yamane (1967) suggested another simplified formula for calculation of sample size from a population. According to him, for a 95% confidence level and $p=0.5$, size of the sample should be

$$n = \frac{N}{1 + N(e^2)}$$

where n =sample size, N is the population size and estimate of the target population size = 1,623, e is the level of precision = 0.05. It should be noted here that formula was used to calculate the sample sizes. the sample is computed as per the formula below; $n = 1,623 / 1 + (1,623 \times 0.05 \times 0.05) = 1,623 / 5.0575 = 321$, Applying the above formula; the sample size is 321.

A multi-stage sampling is used for the survey. Accordingly, in the first stage, the Hawassa City is selected conveniently since the researcher knows very well about the current existed problems with regards to MSEs business performance in their engaged activities. At second stage, purposive sampling method was used to select the 4 sub-cities namely, Menaheria, Tabor, Addis Ketema and Haykidar sub cities among 8 sub-cities of the Hawassa city administration. The selection criteria of this area are based on the high density of small to medium enterprise locations in the Hawassa City according to the data of inventory report, Hawassa City (2022). At the third stage, the manufacturing and/or service sectors of enterprises in each selected sub-city were selected on purposive bases since these sectors have a deep-rooted constraint to be focused than others regardless high emphasize being given by the government. In the Fourth stage, sample size is distributed to all selected Sub-Cities and selected sectors based on the probability proportional to the size method.

In order to conduct research, a sampling frame is a list of all the things from which a representative sample will be drawn. It can recognize every component and decide which to include in the sample (Saunders, 2009). A sample from manufacturing and service sub-sectors of SMEs were chosen to broaden the conclusion's generalizability and extract new empirical insights into the theory (Michalisin et al., 1997). All registered SMEs operating in manufacturing or service sectors have been included in Ethiopia's definition of SMEs (FeMSEDA, 2011).

3.4. Data collection methods

Quantitative data collection is the method of collecting a numerical data that can be converted into values which latter can be analyzed using an appropriate statistical method. Most of the time quantitative data is used to measure variables under the study to understand the relationship between the study variables (Voelkel & Kretzschmar, 2021). Methods and Instruments for quantitative data collection includes questionnaires, interviews, observation, document review, probability sampling and so on (Voelkel & Kretzschmar, 2021). For the quantitative phase of current study, questionnaires method was used to collect quantitative data. According to Aryal (2022), questionnaire is a quantitative data collection instrument that consists a list of questions with its alternative choices of answers. It can be delivered for the respondents of the study and can be returned to the researcher directly.

The use of questionnaire for the quantitative data collection has numerous advantages. These includes; it saves time of data collection, it is relatively inexpensive comparing other tools, uniformity for the respondents, free of bias of the interviewer, gives an opportunity to think and respond to the questions, it enables the researcher to reach the respondents easily (Aryal, 2022; Taherdoost, 2021). As a result, one of the most useful and practical tools for gathering data in this quantitative study is the questionnaire. Questionnaire was provided to all sampled SMEs managers/owners in the field to collect the primary data. Ten enumerators under the supervision of the researcher will be used to collect data. This self-administration strategies result in higher reporting levels (Koponen et al., 2013).

Secondary data were gathered to ascertain the right strategic direction and other elements influencing SMEs' long-term creative success. Many data searches were thus carried out utilizing databases, Google, Google Scholar, Emerald, and Yahoo, theses in the library of the Hawassa University, and publications on strategic management and SMEs. Additionally, web reports, reports from journals, and government papers were all examined.

3.5. Measurement of variables

The scales used in this study are modified from existing scales to suit the context of the present study. By reducing the time and effort needed to create and test new instruments, using survey questionnaires from prior studies increases the validity and reliability of the instruments and quickens the research process (Morgan & Hunt, 2004). Because it cannot be assessed directly, a latent variable is one that is measured via association with an observed variable. The three latent variables (Customer orientation, open innovation, and innovative performance), whose constructs were based on the framework of components (disaggregated for analytical purposes) proposed by the majority of well-known researchers in the field, were also evaluated using the five-point Likert scale.

Hence, primary data were collected using pre-coded and close-ended structural questionnaires through 5-point Likert Scale. Using a five-point Likert scale, where 1 represents strongly disagree and 5 represents strongly agree, respondents were asked to indicate which of numerous statements they agree with or disagree with. For instance, Jeong et al. (2006) defined customer orientation as the general direction and principles that demonstrate how a business should understand customers' needs through the gathering, disseminating, and responsiveness to the potential market, and they used three measurements of variables for customer information, customers-oriented strategy, and responsiveness (Yang et al., 2022). A nine-item scale by the three dimensions was used to gauge customer orientation.

Henry Chesbrough (2003, p. 37) defined open innovation as a paradigm that presupposes businesses can and should use both internal and external ideas as well as paths to market, and two-dimension measurements of variables: outside-in, inside-out were explained from the theoretical and empirical context and 5 items identified. innovative performance is the overall organizational accomplishments as a consequence of renewal and improvement activities taking into account various areas of business innovation, such as processes, products, and organizational structure (Gunday et al., 2011). Using a five-item scale, market, finance and operational performance were used to measure the innovative performance in three different ways. The completed questionnaires were checked for accuracy and

neatness before the data were imported into the Statistical Package for Social Sciences (SPSS 26 and Amos 23 software).

3.6. Data analysis

This study was investigated the relationships and extent of major influences of customer orientation for open innovation and innovative performance of SMEs' in Hawassa, Ethiopia. Structural equation modeling (SEM) was used to test research hypotheses by simulating complicated interactions between many observable and latent variables in multiple dependent relationships while measuring direct and indirect effects between causal variables in a single model. Structural equation modeling is distinct from other multivariate statistical methods. However, only observable variables can be included in multiple regression analysis, and only direct effects can be examined. Therefore, structural regression models are appropriate for data analysis based on the data type (Civelek, 2018).

A key conceptual distinction between the two approaches is the way PLS-SEM and CB-SEM handle the latent variables in the model (Hair et al., 2022). A typical factor-based structural equation modeling technique known as CB-SEM views the constructs as shared factors that account for the covariation among the indicators they are linked to. The composite variables are assumed to provide comprehensive representations of the constructs under inquiry, serving as reliable stand-ins for the conceptual variables (Hair et al., 2019).

According to Hair et al. (2022) and Hair et al. (2016), the decision between the estimation methods partial least squares SEM (PLS-SEM) or variance-based estimators and covariance-based SEM (CB-SEM) should also be based on the research's purpose. CB-SEM finds most of its applications with confirmatory research, a study that confirms (or rejects) previously held conceptual models. Moreover, CB-SEM shows how well a proposed theoretical model fits the covariance matrix for a given data set (Hair et al., 2016). It is more accurate to utilize the CB-SEM approach when the theory needs to be tested and confirmed, when there are cycles in the structural model and when the model needs to be generally evaluated with fit indices. Therefore, based on a good explanation, this study will probably apply covariance-based structural equation modeling (Kline, 2011)

The maximum likelihood estimate approach is the default option in CB-SEM programs. For covariance-based structural equation modeling, it is the default technique that provides accurate and reliable findings compared to other estimation techniques (Civelek, 2018; Hair et al., 2022). It is the most reliable for concept testing and evaluating a given composite structural model and relationships. The choice to employ the Maximum Likelihood Estimation (MLE) technique can also be also justified based on the technology's fundamental qualities of applying AMOS software. Hence, Maximum Likelihood Estimation (MLE) was still be the more appropriate statistical analysis technique for this study.

The five steps of Structural Equation Modeling (SEM) testing include model specification, identification, evaluation, estimation, hypothesis testing, and, if necessary, modification or some adjustments will be done (Jain & Chetty, 2022). These steps will be used as follows:

4. Results of the study

4.1. Reliability tests of a construct

The reliability of a measurement system can be described as the degree to which it maintains consistency of a measure (Jain an& Chetty, 2021; Karakaya-Ozyer & Aksu-Dunya, 2018). The testing of an instrument's reliability is particularly significant since it refers to keeping a consistent measurement throughout all of the component portions of the instrument. One can claim that a scale has high internal consistency and reliabilities if the items on the scale related together and measure the same construct. There are two distinct methods that can be utilized in order to evaluate the reliability of any dataset or structure. These methods are known as internal consistency and composite reliability respectively.

As a result, the internal consistency of the study was evaluated by obtaining Cronbach alpha (1951) values for each survey item that was employed in the analysis. As a result, Table 1 evaluates and reports on the constructions' internal consistency. The Cronbach alpha values are consequently much higher

than the benchmarks of 0.70 for all dimensions (Table 1). This requests for the application of factor analysis (Field, 2013; Jain & Chetty, 2021).

Each construct's Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) values were examined, and they all scored higher than the required minimum of 0.50. This study's factor analysis revealed that the KMO value of 0.830 indicates adequate sampling. If the sample is sufficient and appropriate for factor analysis (Field, 2013; Jain & Chetty, 2022), Bartlett's test of sphericity, p value should be less than .05 and p value = .000 for this investigation.

4.1.1. Composite reliability in SEM analysis

Composite reliability assesses how successfully the underlying variables in structural equation modeling are used (Jain & Chetty, 2021). This approach evaluates an item's contribution or significance by looking at the loading of its variables (Jain & Chetty, 2022). Confirmatory factor analysis is used in SEM to represent construct reliability (CFA). The factor loading analysis is used to estimate composite reliability (Lerdpornkulrat et al., 2017). Higher values indicate higher levels of reliability (Hair et al. 2016). Composite dependability is a scale that runs from 0 to 1. Composite scores between 0.6 and 0.7 are adequate for explanatory research, whereas 0.70 to 0.90 are deemed satisfactory for subsequent phases of the study.

In this investigation, the five factors' composite reliability coefficients exceed 0.7. The composite reliability of Customer orientation, open innovation and enterprise performance in this analysis were 0.858, 0.904, and 0.918, respectively, which is likewise greater than 0.7. Consequently, for the measurement models, composite reliability were good Standard estimates and the error term variance from Amos' confirmatory factor analysis were used to compute composite reliability (Table 2).

4.2. Convergent validity of a construct

Convergent validity is referred to as the degree to which elements that should be conceptually connected are really related. Convergent validity is the amount to which the construct converges to explain the variation of its indicators. Moreover, it confirms that the variables being measured are related to the

Table 1. displays each construct, and its associated reliability coefficients.

No	Variables	No. of items	Correlation (r)	Cronbach Alpha
I. Customer Orientation				
1	Customer Info.	3	0.859	0.909
2	Customer Strategy	3	0.827	0.896
3	Responsiveness	3	0.806	0.890
IV. Open Innovation				
1	Outside-in	3	0.819	0.893
2	Inside-out	2	0.948	0.971
V. Enterprise Performance				
1	Marketing Perf.	3	0.849	0.918
2	Finance Perf.	2	0.885	0.931
3	Innovation Perf.	3	0.743	0.842

Source: Author's data analysis, 2024 from SPSS output.

Table 2. Composite reliability (using AMOS).

No	Variables	Standard Loadings(r)	(e)=1-(r)	$\sum(ri)$	$\sum(ri) \cdot \sum(ei)$ $i = 1_n$	Composite reliability
I. Customer Orientation						
1	Customer information	0.701	0.299			
2	Customer Strategy	0.72	0.28	4.84	5.64	0.858
3	Responsiveness	0.778	0.222			
I. Open Innovation						
1	Outside-in	0.85	0.15			
2	Inside-out	0.766	0.234	9.14	10.12	0.904
I. Innovative Performance						
1	Market Performance	0.828	0.172			
2	Finance Performance	0.795	0.205	6.04	6.58	0.918
3	Operational Performance	0.835	0.165			

Source: Authors' calculation, 2024 from SPSS and Amos output.

latent construct (Jain & Chetty, 2021, 2022). The factor loading for confirmatory factor analysis represents the average value for each coefficient in the measurement model. As a result, factors should have a strong loading with the latent construct and a factor loading should be greater than 0.5. (Hair et al., 2016; Kero & Sogbossi, 2017).

Average Variance Extracted (AVE) is used to quantify the degree to which a construct or item used to represent it, can be shared (Jain & Chetty, 2022). The average variance extracted (AVE) is appropriate to test convergent validity since it explains the extent to which items are shared between constructs (Sujati et al., 2020). Furthermore, an AVE of 0.50 or higher signifies that the construct accounts for at least 50% of the variance in the indicators that comprise the construct (Hair et al., 2022). Hence, Convergent validity was attained when the average variance extracted (AVE) values for all latent constructs exceeded the 0.50 limit (Hair et al., 2019).

As a result, Table 3 below displays the findings of the current final investigation. All items had loadings greater than 0.50 for the anticipated construct, indicating a strong link between prospective items and their constructs. Moreover, Table 3 below displays the findings indicated that all AVE values were above 0.50, except for marketing open innovation which was 0.3 and satisfactory, convergent validity was discovered for the data in both circumstances. This demonstrates the accuracy of the measurements in the measurement model.

4.3. Discriminant validity

Discriminant validity looks at how well the constructs represent different aspects of Customer Orientation, Open innovation, and Enterprise Performance factors. Discriminant validity ensures that latent variable constructs are unique from one another (Hair et al. 2016; Sujati et al., 2020; Tomei & Chetty, 2021). To satisfy these criteria, a construct must exhibit greater variance with its indicators than with other model constructs. The Fornell-Larcker criterion was applied in this study to evaluate discriminant validity. In this criterion, the square roots of the average variance extracted (AVE) of the construct must be larger than the corresponding correlation coefficient (Fornell & Larcker, 1981; Hair et al., 2019). The basis for the Fornell-Larcker criterion was the notion that a construct shares more variance with its indicators than with any other construct.

The results of this investigation showed that all square roots of the constructs' average variance extracted (AVE) values were higher than the corresponding correlation coefficient (Table, 4). Overall, the constructs of CuO, IC, and performance factors' square root of AVEs were higher than the correlation between this construct and every other latent variable construct in the model. The CuO, CO, IC, and performance construct's discriminant validity were thus well supported by the criterion. In other words, discriminatory validity of all three factors were still supported.

Finally, The Variance Inflation Factor (VIF) measures the severity of multicollinearity in regression analysis. It is a statistical concept that indicates the increase in the variance of a regression coefficient as a result of collinearity. multicollinearity concerns were estimated using the variance inflation factors (VIF). Generally, a VIF above 4 indicates that multicollinearity might exist, and further investigation is required. When VIF is higher than 10, there is significant multicollinearity that needs to be corrected. Table 4 also showed that there was no significant collinearity or problem, with each factor's VIF score being less than 3.30.

Table 3. Convergent Validity based on loading factors (using SPSS) and AVE on constructs from Standardized estimate (Using AMOS).

V	Factor Loadings	AVE
Customer Information	0.847	0.5
Customer Strategy	0.794	0.518
Responsiveness	0.793	0.605
Outside-in open Innovation	0.792	0.640
Inside-out open Innovation	0.814	0.955
Market Performance	0.763	0.686
Finance Performance	0.85	0.632
Innovation Performance	0.871	0.697

Source: Authors' calculation, 2024. Extraction Method: Principal Component Analysis Varimax rotation with Kaiser normalization.

4.6. Control variables in the model

There were inquiries on the respondents' demographics in the survey questionnaire for the study. To examine the effect of demographic characteristics on research outcome variables, analysis of variance (ANOVA) and an independent sample t-test were used. To counteract any potential influence these variables might have on innovative performance, this study included a number of control variables. To reduce the likelihood of confounding effects on the variables of interest, we accounted for this collection of variables in the model. The SMEs size, sector and working experience of the respondent had substantial mean differences in the case of innovative performance.

4.7. Hypothesis testing

4.7.1. Model specification and identification

The study applied structural regression models, consisting of measurement and structural models. The base model consisted of one exogenous latent variable (Customer orientation), two endogenous latent variables (Open Innovation and Innovative performance). The model includes: three latent variables in direct and indirect relationships; latent variables further sub-constructs with ten dimensions. Nine indicators or items for the exogenous factors are modeled as measures, nineteen indicators or items for the two endogenous factors are modeled as measures.

This structural model comprises the parameters that indicate the relationships between the observable and latent variables as well as those between the latent variables. Directional effects, indirect effects, and variances are the three categories of parameters that will be stated. The structural Model has three path coefficients and ten factor loadings. Three error terms for the three unobserved endogenous variables, open innovation and enterprise performance, and a measurement error related to each manifested variable, were estimated.

4.7.2. Model estimation

The Maximum Likelihood Estimation (MLE) method was utilized in conjunction with IBM® SPSS® 26 and Amos 23 to estimate the parameters. Finally, AMOS presents both the unstandardized and standardized values of the parameters' estimations (Tables 5–7). Figure 2, indicates the results of standardized Effects (r). Additionally, it provides the critical ratio (C.R.), a z-statistic that checks if the estimated parameter deviates statistically from zero.

Table 4. Discriminant validity (using AMOS).

Fornell–Larcker Criterion	VIF	Cust. Info	Cust. Strategy	Response	Outside-in IC	Inside-out IC	Cust. Sat	Fin. Perf	Oper. Perf
Cust Info	2.00	0.701							
Cust Stra	2.07	0.561	0.720						
Response	2.53	0.554	0.492	0.778					
Outside-in	2.78	0.148	0.189	0.26	0.800				
Inside-Out	2.22	0.208	0.257	0.276	0.78	0.977			
Cust Sat.	3.18	0.301	0.321	0.314	0.51	0.59	0.828		
Fin Perf	2.72	0.226	0.244	0.257	0.39	0.5	0.64	0.795	
Oper Perf	3.30	0.29	0.308	0.182	0.37	0.52	0.68	0.7	0.835

Source: Author's data analysis, 2024 from SPSS and Amos output. The off-diagonal values in the Fornell–Larcker Criterion matrix are the correlations between the latent constructs, and diagonal are square root values of AVEs.

Table 5. Below Presents, the results of mediation conditions and Regression Weight estimates. Standardized Effects (rr).

Standardized Effects (rr)	St. total Effects	St. direct Effects	St. indirect Effects	indirect/Total
Customer Orientation→ Enterprise performance	0.45***	0.25***	0.20***	0.20/0.45 = 0.45
Customer Orientation→ Open Innovation	0.34**	0.34***		
Open innovation→ enterprise performance	0.58***	0.58***		

Source: Author's data analysis, 2024 from Amos output.
*** is significant at the $p < .001$ (2-tailed), $n = 321$.

Table 6. Maximum likelihood estimates, relationship between variables in the proposed model.

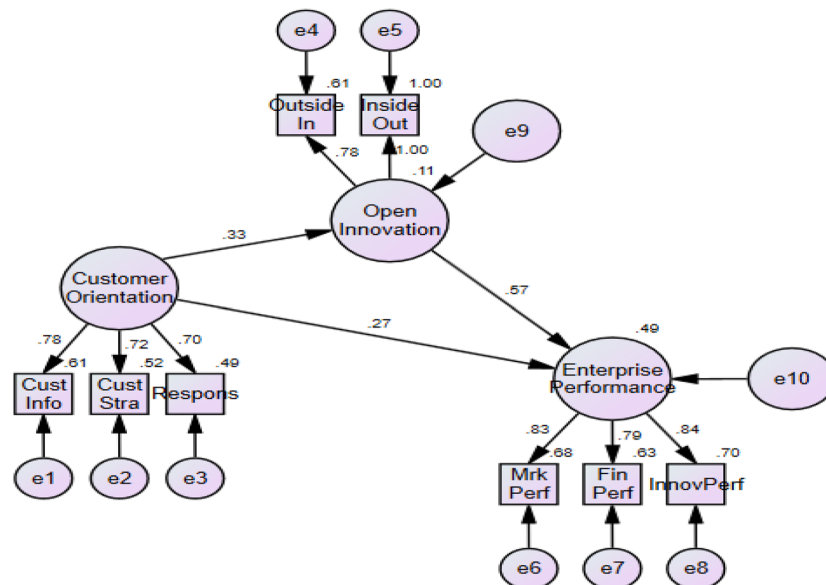
Variables	Loadings	Variables	Unstandardized Estimate	Standardized Estimate	S. E	p
OI	<—	CuO	0.312	0.339	0.062	***
EP	<—	CuO	0.303	0.255	0.072	***
EP	<—	OI	0.75	0.58	0.08	***
Responsiveness	<—	CuO	1	0.701		
Cust Strategy	<—	CuO	1.124	0.72	0.11	***
Cust Info	<—	CuO	1.276	0.778	0.123	***
Outside-in	<—	OI	1	0.8		
Inside-out	<—	OI	1.609	0.977	0.083	***
Finance Perform	<—	EP	1	0.795		
Market Perform	<—	EP	0.882	0.828	0.058	***
Innovation Perform	<—	IP	1.085	0.835	0.07	***

N=321, * $p < .05$; ** $p < .01$; *** $p < .001$, Source: Self- elaborated from Amos output, 2024.

Table 7. Correlation coefficients sample table.

Variables	Customer orientation	Open innovation	Enterprise performance
Customer orientation	1		
Open Innovation	0.300	1	
Enterprise performance	0.348	0.598	1

Source: Authors' calculation, 2024 from SPSS.

**Figure 2.** Structural regression model by AMOS (standardized estimates(r)). Source: Self structured, 2024.

4.7.3. Model evaluation

Finding the best fit between the model and the data is the main goal of model fitting. The model yields a result of 2.2, which is lower than the needed level of the upper bound of 3, when the SMIN is divided by the degrees of freedom, indicating a reasonable fit of the data to the model, according to the fit values proposed by Hair et al. (2019). Model fit is objectively measured by GFI, which is comparable to R^2 in regression analysis (Hair et al., 2019). Attaining a result of 0.957 for our study model met the required threshold of 0.95 or higher for an acceptable match.

When comparing the incremental fit of an independent model with a specific research model, one of the most popular measures for doing so is CFI (Kline, 2011). It is generally accepted that values greater than 0.9 are suggestive of a good model. Moreover, the result of this model of the study was 0.975 met the required limit. An elevated RMSEA score suggests a poorer match. Further confirming the validity of the model, the investigation's result of 0.06 was equal to the recommended cutoff value of 0.06 (Hair et al., 2019). We can conclude that the model does a wonderful job of fitting the sample data after adding up all of the goodness-of-fit numbers.

4.8. Findings and decisions of hypothesis test

4.8.1. Finding and decision of the hypothesis test 1

The higher-level customer orientation of SMEs is the higher enterprise performance of SMEs in Ethiopia. Table 8, indicates positive, and significant influence of customer orientation on enterprise performance, its total effect and direct effect were ($\beta=0.54^{***}$) and ($\beta=0.30^{***}$), respectively (Table 8). The total effect ($\beta=0.54^{***}$) shows when customer orientation increased by 1 Percent, enterprise performance increased by 54 percent. Moreover, the model includes the standardized estimates(r) for the causal paths for the direct effects ($r=0.25^{***}$), indirect effects ($r=0.20^{***}$) was 45 percent, and total effect ($r=0.45^{***}$) of customer orientation on enterprise performance (Table 5). The total effect ($r=0.45^{***}$) shows when customer orientation increased by 1 standard deviation, enterprise performance increase by 0.45 standard deviation. Hence, these results supported **Hypothesis 1**. The higher-level customer orientation of SMEs is the higher enterprise performance that indicated customer orientation has significant positive effect on enterprise performance. In general, the hypothesis was supported as: Hypothesis: **H1**, Findings: **Significant**, Decision: **Supported**

4.8.2. Findings and decision of the hypothesis test 2

Customer orientation has positive significant influence on open innovation of Hawassa SMEs in Ethiopia. From Table 8, direct effects of customer orientation on open innovation were ($\beta=0.31^{***}$). The direct effect ($\beta=0.31^{***}$) shows when customer orientation increased by 1units, open innovation increased by 0.31 unit. Additionally, this model also includes the standardized estimates(r) for the causal paths for the direct ($r=0.34^{***}$) of customer orientation on open innovation (Table 5). These direct effects show when customer orientation increased by 1 standard deviation, open innovation increase by 0.34 standard deviations. Hence, these results supported hypothesis 2. In general, the hypothesis was accepted as: Hypothesis: **H2**, Findings: **Significant**, Decision: **Supported**.

4.8.3. Findings and decision of hypothesis test 3

Open innovation has positive significant effect on enterprise performance of Hawassa SMEs in Ethiopia. Table 8, reveals the paths from the open innovation has effect ($\beta=0.75$) on the enterprise performance. The direct effect ($\beta=0.75^{***}$), shows as open innovation increased by 1unit, enterprise performance increased by 0.75 unit. Furthermore, this model includes the standardized estimates(r) for the causal paths for the direct effects ($r=0.58^{***}$) of open innovation on the enterprise performance (Table 5). These direct effects show when open innovation increase by 1 standard deviation, enterprise performance increases by 0.58 standard deviation. This indicates that open innovation has significant impact on the enterprise performance, these results supported **Hypothesis 4**. In general, the hypothesis was accepted as: Hypothesis: **H4**, Findings: **Significant**, Decision: **Supported**

4.8.4. Mediation tests, hypothesis 4

The following prerequisites must be satisfied before mediation tests can be verified (Baron & Kenny, 1986): (1) Changes in the mediator variable result from changes in the independent variable, (2) changes to the mediator variable result in changes to the dependent variable. (3) The impact of the independent variable on the dependent variable either decreases or insignificant if the mediator and independent

Table 8. Below presents, the results of mediation conditions and regression weight estimates. Unstandardized Effects ($\beta\beta$).

Unstandardized Effects ($\beta\beta$)	Total Effects	Direct Effects	Indirect Effects	indirect/Total
Customer Orientation→ Enterprise performance	0.54***	0.30***	0.24***	0.24/0.54=0.45
Customer Orientation→ Open Innovation	0.31***	0.31***		
Open Innovation → Enterprise performance	0.75***	0.75***		

Source: Author's data analysis, 2024 from Amos output.

***Significant at the $p < .001$ (2-tailed), $n = 321$.

variables are combined in the regression analysis (Civelek, 2018; Kero & Sogbossi, 2017). As a result, all variables are first examined for correlation once the model has been constructed. This verifies whether the first two conditions put forward by Baron and Kenny are met by the model. A sample correlation table is shown in Table 7. Three distinct models and model coefficients are compared in a mediator analysis.

According to Table 9, inclusion of the variable open innovation in model 1 led to a drop in the coefficient of the connection between customer orientation and enterprise performance. In this instance, we discovered that the open innovation and open innovation mediators' roles were statistically significant. Table 9 also displays each model's fit index. Additionally, these fit indices fell within allowable bounds for the objective verification of the function of mediator variables.

Further analysis was performed using AMOS to determine significance levels of mediation effects. Therefore, we analyzed the impact of mediator (open innovation) on the relationship between customer orientation and enterprise performance. The mediation model includes the standardized estimates(r) for the causal paths for the indirect effects ($r=0.20^{***}$) was 45%, direct ($r=0.25^{***}$) effects, and total effect ($r=0.45^{***}$) of customer orientation on enterprise performance. The indirect effect ($r=0.20^{***}$) which was 45% shows the mediator (Open innovation) partially mediate in between customer orientation and enterprise performance. Hence, this supports hypothesis-6. In general, the hypothesis was supported as: Hypothesis: **H6, Findings: Significant, Decision: supported** (Table10).

Finally, findings and decisions of hypotheses testing summarized in Table 10 below.

4.10. Discussion

Hypothesis 1 proposed that customer orientation has a significant influence on enterprise performance. Customer orientation focuses on how a business should understand customers' needs, develop customer-focused strategies, and responsiveness to the customers' demand. This study indicated that searching for customer information, incorporating consumer preferences and needs into its business development decision and responsiveness help SMEs to provide excellent customer service and ensure long-term success.

The study reveals that customer orientation leads to higher customer satisfaction because understanding the needs of the customer and seeking out better solutions helps to realize superior value for customers that has a big impact on how they behave. Furthermore, customer and market knowledge and ideas help businesses to make better decisions about standardizing or modifying marketing programs, it

Table 9. Output of standardized total effects.

Relations	Model 1	Model 2	Model 3
CustO → EP (H1)	0.44***		0.26***
CustO → OI (H2)		0.35***	0.34***
OP → EP (H3)		0.67***	0.58***
	$\chi^2/df = 3$	$\chi^2/df = 2.7$	$\chi^2/d.f = 2.2$
	CFI = 0.979 GFI = 0.976	CFI = 0.963 GFI = 0.947	CFI = 0.957 GFI = 0.975

Source: Authors' calculation, 2024 from Amos.

Table 10. Summary of findings and decision of the hypothesis.

Hypothesis: H	Proposed hypothesis	Findings	Decisions
H1	Customer orientation has positive effect on performance of Hawassa SMEs in Ethiopia	Significant	Supported
H2	Customer orientation significantly influences open innovation of Hawassa SMEs in Ethiopia	Significant	Supported
H3	Open Innovation has significant influence on the performance of Hawassa SMEs in Ethiopia	Significant	Supported
H4	Open Innovation mediate the relationship between customer orientation and performance of Hawassa SMEs in Ethiopia	Significant	Supported

Source: Verified by Authors, 2024 from Amos.

may become essential input for forming marketing innovation strategy. the strategy selected should be in line with the demands of the target customers. Making decisions about the standardization and adoption of the marketing mix in market has become crucial to ensure innovative performance. Hence, SMEs should prioritize keeping their present customers and forging profitable long-term relationships with them help to get new ideas and understand their needs. According to earlier research, interactions with customers might generate ideas that help lead to the creation of new products. This finding is aligned with the previous study (Boso et al., 2012; Salojärvi et al., 2015; Wang, 2016).

According to the study, customer orientation influences organizational procedures, decision-making and implementation, and resource allocation. This implies that when a company chooses to have a customer orientation as its strategic perspective, all strategies, procedures, allocations, and choices are focused on making the customer satisfied. According to, meeting the requirements and demands of both current and potential customers entails all efforts aimed at achieving superior performance through customer orientation, which is aligned with the study (Khan & Khan, 2020).

Hypothesis 2 proposed a significant link between customer orientation and open innovation.

The study noted that interaction with consumers leads to the development and accumulation of customer knowledge capability, which is subsequently integrated into internal business processes help to provide better customer value. This study indicated that customer knowledge and ideas positively strengthen open innovation of SMEs. Hence, customer orientation can be considered as searching engine for customer expectations and commitments to develop new products and improve existing products' features, quality, and price. The business's ability to accommodate customer preferences may boost open innovation.

The result of the study, which examined how customer knowledge, ideas and information might influence development of innovation of SMEs, indicated that it has a significant and positive effect. SMEs with customer orientation can explore new ideas, knowledge and information from outside sources, integrate them with their own existing ideas to ensure breakthroughs. They seek to better understand their customers and then use this information to make a decision or to develop innovation strategies and provide them with the products and services that best meet their needs. Consequently, a deeper comprehension of customers encourages the development of customer-focus innovation. These findings were in line with prior research that shows customer orientation positively affects service and product innovations in service and manufacturing firms (Wang, 2016)

The findings of this study also shown how early customer feedback integration can boost an organization's market competitiveness. Customer orientation encourages more direct communication with clients, boosting improvements that bring items closer to their ideal levels of features, quality, and price. The outside-in innovation process is thought to be significantly influenced by customer involvement as they can provide novel ideas that improve customer value. This study also discovered that improving cooperation with stakeholders or strategic partners, such as research institutions, universities, pertinent government organizations, financial institutions, etc., is crucial for providing customers with added value. It has been demonstrated to be regarded as a crucial outside source of knowledge. These outcomes align with research by (Naqshbandi & Jasimuddin, 2022; Pundziene et al., 2021).

Hypothesis 3 proposed a positive link of open innovation with enterprise performance.

According to the study's findings, SMEs that collaborate with customers on new ideas foster innovative performance to meet changing customer demands and provide ongoing value to stakeholders. The outcome showed that consumer involvement in the innovation process encourages the sharing of knowledge and ideas that improve enterprise performance. Hence the study also noted that interactions between businesses and their customers serve as a vehicle for innovation and support the creation of new products. Prior research suggested that corporations should prioritize the knowledge resources available at universities and research centers/institutions in addition to focusing on contacts with managers working in other enterprises, leading to improved inbound open innovation outcomes (Naqshbandi & Jasimuddin, 2022).

The perception of innovativeness thus does not appear to be related to 'novelty'. Instead, this study appears to be innovative by adapting and customizing existing product. This study indicated that SMEs have to be innovative in terms of making changes to their processes within their businesses to enhance

consumer value. innovation enables businesses to significantly boost their business performance by reducing cost, increasing efficiency and service delivery. The ways include offering faster services, offering better customer service as well as mass production to get comparative advantage to offer in lower price. The efficient utilization of firm resources improved process empowers superior performance.

Moreover, open innovation as the modification or improvement of a product's design, container, packaging, price, or advertising marketing methods of existing products or processes using outside-in and inside-out ideas' sources enable SMEs, to better meet customers' preferences and wants. Moreover, customer value-added services are made possible via open innovation. Open managerial innovation enhances adopting new or enhanced management techniques in both the internal and external interactions of businesses and the organization of work. Therefore, managerial innovation enables businesses to significantly boost their business performance by reducing cost, generating internal and external knowledge and developing human capital, raising productivity. This study findings are in line with the existing study (Girod & Whittington, 2017; Gunday et al., 2011; Kafetzopoulos & Psomas, 2015; Rasheed et al., 2020)

Hypothesis 4 of the study is based on the mediating role of open innovation in the path between customer orientation and enterprise performance.

The results of this study demonstrate that strategic orientation generates value through open innovation; as a result, resource integration and efficient use have an indirect effect on the performance of SMEs. Understanding and using customer orientation to improve open innovation and the effective use of limited resources provides value, increases customer satisfaction, and benefits the owners of SMEs financially. The study discovers that customer-focused SMEs can readily participate in open innovation activities and profit from exchanging market data, concepts, and expertise with clients and outside partners that can enhance open innovation outcomes. The ability to access outside ideas and to allow others to use their own ideas to generate or enhance the value chain of product/service innovation has also become a vital component.

Therefore, new input types, new production processes, new distribution techniques (distribution methods), and new product innovations are all examples of innovation types. This may take the form of a new sales technique, a product with improved features, or an improved upkeep and repair procedure. Entrepreneurs can come up with concepts and then drive innovation and eventual commercialization by combining both internal and external information and ideas.

The results of this study demonstrate that customer orientation generates superior value through open innovation. As a result, resource integration and ability to transform them in to improved ones have an indirect effect on the enterprise performance of SMEs. Understanding customer needs, developing customer focused strategies and responsiveness to meet customer demand may improve innovation capacities and provides value, increases customer satisfaction, and benefits the owners of SMEs financially.

Entrepreneurs can come up with concepts and then drive innovation and eventual commercialization by combining both internal and external information and ideas. These results are essentially consistent with those of previous research that has examined the role of entrepreneurial orientation in the production of knowledge and innovation (Joan Freixanet et al., 2021; Buccieri et al., 2020). Accordingly, our findings showed that open innovation serves as a link between strategic orientation and creative performance.

5. Conclusions and recommendations

5.1. Conclusions

Small and medium-sized businesses (SMEs) are a major source of employment, income, and innovation. Innovation is key to every country's economic development since it fosters industry competition, significantly impacts business performance, and promotes national economic growth (Rasheed et al., 2020). For emerging economies to stay competitive, they must encourage innovation among their small and medium-sized enterprises (Akhtar et al., 2021). The study focuses on the customer orientation and how it may affect the Open innovation and performance of SMEs with the mediating role of open innovation. This study used structural equation modeling (SEM) to examine the research hypotheses in the

suggested structural regression model with a sample of 321 SMEs' respondents in order to provide a deeper understanding of the complex relationships among these various elements. This analysis produced several interesting findings.

The empirical results showed that customer orientation significantly improves open innovation and enterprise performance. Additionally, open innovation has a considerable favorable impact on the enterprise performance. Finally, the findings also showed that open innovation partially mediated the relationship between consumer orientation and enterprise performance of Hawassa SMEs in Ethiopia. Hence, the study found that customer orientation creates better value through open innovation, having an indirect effect on the performance of SMEs. SMEs operate more innovatively when they have customer focused strategies and responsiveness to meet customer demand. Understanding and utilizing customer orientation (customer information, customer focused strategy, and responsiveness) enhances open innovation, which adds customer value and benefits SMEs' owners financially.

The conclusion suggests that the lack of adequate customer orientation among Hawassa manufacturing SMEs hindered their ability to innovate. To adapt the SMEs' product offerings to changing customer demands, management needs to be more sensitive to market trends and more conscious on market dynamics. SMEs may fail as a result of a lack of focus on customers. Because customer orientation strengthened the open innovation of SMEs that also affected their innovative performance. Applying customer information knowledge and ideas through integrated innovative way enhance low prices, high quality products, and excellent customer service.

5.2. Policy and theoretical implication

Theoretically, by clarifying empirically the gap between customer orientation and enterprise performance and demonstrating that open innovation not only mediate the relationship between these two aspects but also strengthen the indirect impact the customer orientation has on performance of Hawassa SMEs in Ethiopia. Additionally, the study examined the mediating effect of open innovation, which are frequently cited as significant enablers of innovative performance. Furthermore, the study examined various theories and proposed hypothesis and produced conclusive results, it has significant consequences for contributing new knowledge to existing literature. In the way that they can improve the value of the enterprise performance. The result demonstrates that having a clear customer-oriented strategy and understanding how to apply it improve open innovation, which ultimately adds value and benefits SMEs' owners financially and in terms of customer satisfaction. These findings have important management implications.

According to the study's findings' practical implications, managers of SMEs can acquire and utilize valuable resources such as knowledge, ideas and information more effectively by building and fostering solid relationships with customers. In order to guarantee innovative performance through open innovation, managers can benefit from having a thorough awareness of their consumers' needs and ideas. This can be accomplished by regularly asking customers for input, attending to their needs, and conducting survey of customer satisfaction.

The management of SMEs should actively involve in the digital transformation process to enhance business operations and increase competitiveness through efficiency. Ideas and information management systems should be automated to increased open innovation in SMEs. The strategic perspective makes it easier for the SMEs to be ready to employ technology to improve processes, products, marketing and management. Additionally, managers can identify and build cross-organizational collaboration with key players including customers, colleges, universities, and business development service centers of the government.

Policy implications: Given the importance of SMEs, the study also suggests that governments work to improve a consistent, trustworthy, and transparent information management system in order to comprehend the situation of MSEs and help them. A software program with a mini data server must be used to set up and automate the information management system for SMEs. The study makes the suggestion that the Government of Ethiopia (agencies organizing and supporting SMEs) might use the study's findings to build entrepreneurship and innovation training programs that will improve SMEs' performance

and growth. The study also suggests that operating in priority and strategic business initiatives will enhance innovativeness and long-term value. Hence, the study contends that improving an economy's capacity for productive and value creation sectors encourage mastery of innovative that requires a deliberate and thorough array of state-directed, synergistic interventions with a structural transformation. The private sector's ability to facilitate and support proportionately more new jobs for educated and trained workers in priority economic activities will boost innovation.

5.3. Limitations and suggestions for further study

Overall, the study's findings give the conceptual framework a lot of solid backing. Particularly, the outcomes show that strategic orientation is a potent tool that can both directly and indirectly result in successful innovation. The study does, however, have some limitations, as do all studies. The fact that the current study relied on respondents' opinions of their business' performance is one of its major limitations. If accurate records of financial growth indicators, such as sales and profit, in quantitative terms at various times could have been obtained, the analysis would have been more thorough. Another drawback is that future researchers should utilize a longitudinal strategy to compare any fluctuations in the outcomes because this study used a cross-sectional research design together with a quantitative research approach.

Authors contributions

Aklilu Tukela Bekata and Chalchissa Amentie Kero (PhD) both authors were involved in the conception and design; analysis and interpretation of the data; revising it critically for intellectual content; and the final approval of the version to be published; and both authors agreed to be accountable for all aspects of the work. Aklilu Tukela actively played a role in data collection and analysis and wrote up.

Ethics statement

In compliance with local law and institutional standards, an ethical assessment and approval were not necessary for the study involving human subjects. The participants/patients gave written informed consent to take part in this investigation.

Disclosure statement

No potential conflict of interest was reported.

Funding

This study was not received any funding.

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Data availability statement

The raw data supporting the results of this article will be made available by the authors, upon reasonable request.

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