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The Importance Role E-Collaboration Capability and Information System Maturity on Knowledge Sharing and SMEs Marketing Performance

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ABSTRACT

Thisarticlediscussestheeffectofe-collaborationcapabilityandinformationsystem maturityonknowledgesharingandSMEs marketingperformance.Thisstudywas conductedatSMEsinCentralJavawhichhadusedin formationsystemandtechnology in collaborating with partners and customers. There wer e 160 respondents in this researchwhoweretheownersormanagersofSMEsinCentralJava ,Indonesia.This researchusedstructuralequationmodelinganalysis.AMOSversion21wa susedto process the data. The result of this research showed that all proposed hypotheses were accepted. First, e-collaboration capability has positively and significantly influenced knowledge shari ng. Second, knowledge sharing has positively and significantlyinfluencedSMEmarke tingperformance.Third,e-collaborationcapability has positively and significantly influenced SME marketing per formance. Fourth, informationsystemmaturityhaspositivelyandsignificantlyinfluence dknowledge sharing.Fifth,informationsystemmaturityhaspositivelyandsignificantlyinfl uenced SMEmarketingperformance.

KEywoRdS

E-Collaboration Capability, Information System Maturity, Knowledge Sharing, SMEs Marketing Performance

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INTRodUCTIoN

Firm proactively change their business processes to reduce costs and improve competitiveadvantage(Carrol&Shabana,2010).Brink(2017)revealthatcollaboration contributes toSMEscompetitiveness.CollaborativeactivitiesmakeSMEsbecome moresustainable(Govindanetal.,2016).Collaborationenablemovementofresources totheotherpartytoenhancevaluecreation(Prahalad&Ramaswamy,2004;Thomke &Hippel,2002),innovation(Kim&Lui,2015;Zhang&Tang,2017),competitive advantage(Allredetal.,2011;Maulana&Rufaidah,2014)andperformance(Choi &Ko,2012;Chuang&Lin,2015;Vereecke&Muylle,2006;Wangetal.,2015). Collaboratio nalsoallowsforbettermanagerialdecisions.

Thedevelopmentofinformationandtechnologyenablescollaborationactivities witho uthavingtomeetfacetoface.SwitzerandHartman(2008)reveale-collaboration as working together in electronic environment. Electronic collaboration e nables a comprehensivelong-distancecollaborationforresearchanddevelopment,marketing (Bidgoli, 2012), learning, and tacit knowledge sharing (Harris, 2009). In order to develop electronic collaboration, SMEs are expected to have maturity in adopting information system (IS). IS maturity influences the knowledge sharing and firm performance(Raoetal.,2015).ISisstrategicall yimportantwhentheorganization are distributed geographically (Lang, 2001). Technology and information system makes SMEs receive information rapidly, easy to collaborate and communicate, anditinfluencesthespeedofdecisionmaking.ISalsomakeseveryt hingefficient (Alavi&Leidner,2001;Wade&Hulland,2004)andenhacecompanies'perfo rmance (Mohamedetal.,2006).

We find inconsistencies in the impact of e-collaboration on performance. RosenzweigandRoth(2007)foundthate-collaborationcanenhanceoperationaland businessperformance.Someexpertsrevealthatt heuseoftheinternetincollaborative activitieshasnotbeenabletoshowitsbenefitstoperformance(Deverajetal.,2007; Jap&Mohr,2002;Mukhopadhyay&Kekre,2002;Rosenzweig &Roth,2007).The inabilityiscausedbylessattentiontothevariouscoststhatariseduetoe-collaboraion, suchashumanrelations,systeminformation,processchangesandadministrati vecosts (Kumar&vanDissel,1996;O'Leary-Kelly&Flores,2002).Thisstudyinvestigates theeffectofe-collaborationcapabilityandinformationsystemmaturityonknowledge sharingandSMEs marketingperformance.

LITERATURE REVIEw

E-Collaboration Capability

E-collaboration is a collaboration among individuals who accomplish a task using electronic technology (Kock et al., 2001). Switzer and Hartman (2008) and Weisethetal.(

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2006)emphasizee-
collaborationasworkingtogetherinanelectronic environment.Collaborationiscarriedou
twithoutface-to-
faceinteractionsbetween individualsormembersofvirtualteamsinvolvedinsharedtasksusi
nginformationand

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communicationtechnology(Bourasetal.,2008).E-Collaborationusesacombinationof hardware,softwareandcommunicationtechnologythatenablesdecisionmakersaround theworldtocommunicate,participateandcollaborateindecision-makingactivities (Bidgoli,2012).E-collaborationuseselectronictechnology,suchasweb-basedchat tools,e-mail,internet,websites,socialmedia,decisionsupportsystemgroups,and teleconferencetools.E-collaborationisimportantbecausetherelationshipbetween thefirmanditscustomersandsupplierscanbemanagedefficiently.

Socialaspectsarealsoimportantinbuildinge-collaboration(Cai,2005;Easleyet al.,2003).E-Collaborationshouldnotonlybeviewedfromatechnicalpointofview, butalsorelatedtothesocialconstructionprocesswhendifferentpeopleperformtheir tasksinvariousadaptivesituations(Berger&Luckman,1966).Collaborationisbased onsocialactivitiestoestablishgoodrelationships.Relationshipsamongparticipants willchangecollaborativeentities.Collaborativeactivitiesisneededtomanageconflict, improvethequalityoftasks(Cai,2005),reducemiscommunication(Baron,1984), and coordinate in making decisions (Kannapan & Taylor, 1994). E-collaboration must understand other parties so that there is no conflict among parties. Intense communicationiscarriedouttounderstandeachother.

Information System Maturity

The concept of maturity model is increasingly applied in the field of IS (Vidal et al.,2019).AMaturityModel(MM)isatechniqueformeasuringdifferentaspects ofaprocessororganization(Proença&Borninha,2016).Severalmaturitymodels havebeenproposed,butthereisnoagreementonthestageofmaturity.Thestage of maturity is based on driver factors (Rocha, 2011), their application and quality (Pöppelbuß&Röglinger,2011).Maturitymodelsareimportantfordecisionmaking, andorganizationaltransformation(Vidaletal.,2019).Inthisstudy,maturitymodel focusoninformationsystemsmaturityofsmallmediumenterprises(SMEs).Nolan (1979)usestheword“maturity”toexplainthegrowthanddevelopmentof information technologyinfrastructureisbeingadoptedbybusinesses.Praničevićetal.(2011) reveal thelevelofinformationsystemmaturity,namelytechnologicalpartner,servicepartner, andstrategicpartner.Technologicalpartnersarealevelofinformationsystemmaturity thatfocusesondataprocessingactivities.Servicepartnerfocusonintegrationand comprehensive supporttoallbusinessfunctionswhilethestrategicpartnerfocuses onimprovingbusinesscompetitiveness.

King and Sabherwal (1992) revealed the maturity of information systems to provide benefits to companies. IS is fundamentally important for global reach when organizations are geographically distributed (Lang, 2001). Companies using Information systems and technology, especially the Internet and communications networks,willenhancecollaborationandreducecosts(Mohamedetal.,2006),share informationandcommunicationefficiently(Zhu&Kraemer,2005),andfacilitatethe creationandutilizationofknowledg

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einadynamicbusinessenvironment(Lang,2001). Informationsystemsmaturityalsoenable companiestoenhancetheirperformance (Raoetal.,2015).

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Knowledge Based View (KBV) of the Firm and Knowledge Sharing

Knowledgebasedviewofthefirm(KBV)isoneoftheimportantapproachesinthe success of the firm. KBV explained that firm must be able to generate and apply varioustypesofknowledge(Grand,1996).Knowledgeisthefirm'smostimportant resource and contributes to increasing added value (Grant, 1997) and competitive advantageofthefirm(Jasinskasetal.,2015).TheFirmstrivestore-developdynamic resourcesandknowledge-basedcapabilitiestoincreaseopeninnovation(Vanhaverbeke &Cloodt,2014),competitiveadvantage(Jasinskasetal.,2015),thegrowthofthe firm(Saarenketoetal.,2009)andsuperiorbusinessperformance(Darroch,2005). KogutandZander(1992)dividesknowledgeintoinformation(explicitknowledge) and know-how based. Explicit knowledge can take the form of facts and symbols (Kogut&Zander, 1992).Explicitknowledgeiseasiertoencodeandarticulate,soit's easiertotransfer(Simonin,1999).Tacitknowledgeisnon-verbalandverydifficult toarticulate(Polanyi,1966).Tacitknowledgeisoftenintheformof practicalskill andexpertise(Eric,1988).

Onemechanismforintegrationofknowledgeistransferofknowledge.Knowledge transferisaprocessofmanagingknowledgewheresomeonelearnstootherpeople who are more understanding (Grant, 1997). The form of knowledge transfer is knowledgesharing.Knowledgesharingisunderstoodanddefineddifferentlyinthe literature.Basically,knowledgesharingistheprocessofflowingknowledgefromthe sourcetotherecipient.Peopleororganizationscanbesources,senders,facilitatorsor mediatorsbetweensourcesandrecipients. Yooetal.(2007)explainthedefinitionof Sharingknowledgeasaprocessofcreatingknowledgebetweenindividualsorgroups, throughdirectorindirectinteractions.Matinetal.(2010)revealknowledgesharingas knowledgetransferbehavior.Sharingknowledgemeansthedesireofsomeonetolearn andhelpothersindevelopingnewcapabilities(Bocketal.,2005),new knowledge (VandenHooff&DeRidder,2004),experiencesharing,skillsharingtoother(Lin,
2007).Knowledgesharingprovidesinformationtosolveproblems,developnewideas, orimplementpoliciesorproceduretogether(Cummings,2004).

Collaboration between companies enable companies to acquire knowledge and skillsthatarenotavailablewithinthefirm(Scott,2000).Knowledgeisanimportant organizationalresourcethatprovidesustainablecompetitiveadvantageinacompetitive and dynamic economy (Davenport & Marchand, 2001; Spender & Grant, 1996). Knowledgethatflowsfrompartnerswillhaveanimpactonthefirm'scompetitive advantage.Transferoftacitknowledgeisadeterminantofsuccess(Harris,2009). Iandolietal.(2012)analyzesaboutsharingknowledgeintheonlineenvironment. The study conducted by Iandoli et al. (2012) revealed the importance of online collaborationplatformsdesignedtosupportdistributedknowledgemanagementand decisionmaking.Theplatformallowscompaniestoenhancecollectivesensingand mutualunderstanding.

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SMEs Marketing Performance

Performanceisameasureofthefirm'ssuccessinachievinggoals(Ardyan,2016). Lönnqvis t (2004) defines performance as the actual outcome / ability to achieve results.Inthecon textofSMEs,Ardyan(2016)definestheperformanceofSMEsas ameasureofthesuccessof SMEsinachievingthelevelofprofitabilityandgrowth inaccordancewithpreviouslydeter mined.SMEperformancecanbeseeninvarious waysincluding:profit,growth,netsalesrev enue,increasedsales,increasedmarket share,growthpotential,satisfaction,reachingfina ncialgoals,andothers(Bakaret al.,2014;Carey,2015;Minchna,2009;Omerzel&Antoncic ,2008;Soketal.,2013; Zhengetal.,2009).Thisperformanceisbasicallydividedintofinanci alperformance andnon-financialperformance.Inthisstudy,thefocusofperformancemeasurement isnon-financialperformance,especiallySMEmarketingperformance.

Measuring performance through marketing performance is an interesting topic (Am bler,2000;Clark,1999,2000;daGama,2011;Gronholdt&Martensen,2006). Marketingpe rformancemeasurementcanbeexplainedastherelationshipbetween marketing activities and their performance (Clark & Ambler, 2001). Clark (1999) revealed4reasonsthefirmus edmarketingperformancemeasurements.First,thefocus onmarketingwilldriveprofit,gro wthandsalesinthefuture.Second,investorsneed informationrelatedtomarketingactivitie s.Third,theconceptofbalancescorecard (Kaplan&Norton,1992)Elijahinspiredthatperfo rmancemeasurementisnotjust a financial measure. Fourth, many managers are frustrate d after using traditional performance measurement, so they use marketing-based measurements. although measurementofmarketingperformancehasapositivesid e,Ambleretal.(2004)said thatsomeresearcherscriticizedtheuseofmarketingperformanc e.Somereasonsare because marketing performance has limited diagnostic strength (Day & Wensley,
1988),focusonshortterm(Dekimpe&Hanssens,1999)andlackinginattentionto shareholdervalue(Doyle,2000).

HyPoTHESIS

E-Collaboration Capability and Knowledge Sharing

EE-
collaborationisaninnovativecollaborationusinginformationtechnology.The firm'sabili tytocarryoutinnovativecollaborationwillaffectthelevelofknowledge andaccelerateacce sstoknowledge(Zhengetal.,2013).Chenetal.(2014)arguedthat thefirmrequirescollaborat iveinnovationcapabilitytotransferknowledgeeffectively. Tanriverdi (2005) argues that I T-
based coordination mechanisms can increase the reachandwealthofcorporateknowledge resources,andenablebusinessunitstolearn aboutopportunitiestoshareknowledgewithea chother.Groupsupportsystemsand video-conferencingase-collaborationtoolssuchenableknowledgesharingprocess effectively. E-

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collaboration enables companies to gather other people's ideas and sharecreativityglob allythroughtheinternet(Koetal.,2011).Thus,weproposethe following:

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H1: E-Collaboration capability has a positive and significant effect on knowledge sharing.

Knowledge Sharing and SMEs Marketing Performance

In the business environment, knowledge management encourages organizational perf ormance (Li et al., 2008; McAfee, 2002). Based on knowledge-based views, companies are institutions that integrate knowledge (Grant, 1996). Setia an d Patel (2013)revealthefirm'sabilitytomanageoperationalknowledgewillhaveanimpacton increasingitscompetitiveadvantage.Companiesacquireknowledgethroughspillovers, acq uisitions(Björkmanetal.,2007),andknowledgesharingactivities.Knowledge sharingpla ysanimportantroleintheprocessofintegration.Companiesthathave strongnetworkswille asilycarryoutintegrationsothattheknowledgesharingactivity willgreatlyaffectbusinessp erformance(Sarafetal.,2007).Thefirmlearnsabout informationandknowledgefromkno wledgesharingactivities,itwillhaveanimpact onitsperformance(Law&Ngai,2008).Thus ,weproposethefollowing:

H2: Knowledge sharing has a positive and significant effect on SMEs marketing performance.

E-Collaboration Capability and SMEs Marketing Performance

Superior relationships will have an impact on firm performance as part of the develop mentofmarketingpracticesandtheories(Morgan&Hunt,1994).IT-based collaborationhelpscompaniesdevelopcollaborativerelationships,whichcanenhanc e firmperformance(Bensaou,1997;Hart&Saunders,1998;Koetal.,2011).Inthe studyofr elationshipmarketing,thegoalofbuildingrelationshipsistocreateprofit andlong-termperformance(Hultman&Shaw,2003;Palmatier,2008;Palmatieretal., 2008;Ravald&Gronroos,1996;Tseetal.,2004).Wangetal.(2015).Collaboration between SMEsintheclusterisexpectedtoimprovetheperformanceofeachUKM. Thus,weproposet hefollowing:

H3: E-collaborationcapabilityhasapositiveandsignificanteffectonSMEsmarketing performance.

Information System Maturity and Knowledge Sharing

TheresultsoftheresearchconductedbyRaoetal.(2015)Informationsystemmaturity hasapo sitiveandsignificanteffectonknowledgesharing.Informationsystemgives meaningabout connectingpeople,whereitisasourceofknowledge(Alavi&Leidner, 2001).Raoetal.(2015)gaveanexampleofnetworkvideoconferencingtosupport collaboration between employees in different locations, online knowledge sharing

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portalssuchaswikis.Informationsystemsmakeinformationflowfromonepartyto another. InformationSystemcanmakecompaniestoshareinformationandimprove communication with other parties to achieve efficient coordination (Dong et al., 2009).KnowledgecanbestoredthroughISandtheRoleofISprovideseffectiveand efficientfacilitiesforcollecting,storing,transferringandaccessingknowledge(Alavi &Leidner,2001).Holsapple(2005)revealITisveryimportanttofacilitatetheflow ofknowledgebetweenknowledgeprocessors(humansorcomputers)andalsotohelp measure,control,coordinateandknowledgeleadershipandknowledgeprocessors. Thus,weproposethefollowing:

H4: InformationSystemMaturityhasapositiveandsignificanteffectonknowledge sharing.

Information System Maturity and SMEs Marketing Performance

Oneoftheimportantresourcesinthefirmistheabilitytoadoptinformationsystem andtechnology.Thefirm'sabilitytoadoptinformationsystemswillmakeiteasier forcompaniestocarryoutvariousactivities.Thefirm'sabilitytoadoptISwillhave animpactonitsbusinessperformance(Bharadwaj,2000).HolsappleandWu(2009) alsobelievesthatITcapabilitieswill beabletoimprovefirmperformance.Thus,we proposethefollowing:

H5: Information System Maturity has a positive and significant effect on SMEs marketingperformance.

Fromthedevelopmentofthehypothesisabove,weproposetheempiricalresearch modelshowninFigure1.

Figure 1. Empirical research model

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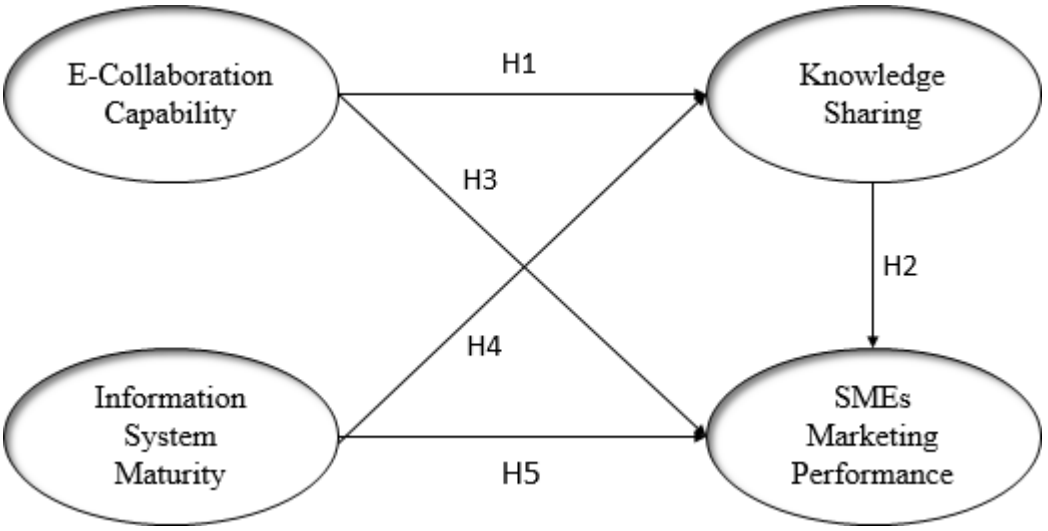

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RESEARCH METHod

data Collection and Samples

ThisstudywasconductedonSMEsinCentralJava.SMEshasusedtheinformation systemwelltocollaboratewithitsbusinesspartners.Theuseofinformationsystems meansinestablishingcollaborationandcommunicationusingelectronictechnology, suchasweb-basedchattools,e-mail,internet,websites,socialmedia,decisionsupport systemgroups,andteleconferencetools.Toobtaintherequireddata,wedistributed questionnairestotheownersormanagersofSMEs.Thequestionnairewasdistributed to400SMEsinCentralJava,Indonesia.Buttheretur nedquestionnaireandcanbe processedforfurtheranalysisonly160respondents(40%response rate).

Measurement

Eachquestioniteminthisstudywasmeasuredusingascaleof5,where1indicates stronglydisagreeand5indicatesstronglyagree.

Thisstudydefinese-collaborationasacollaborativeactivityusinginformation andcommunicationtechnology (Weisethetal.,2006).Thee-collaborationcapability indicatorwasadoptedfromChoiandKo(2012),includingtheabilityofSMEsto developandreviseplans(EC1),theabilityofSMEstounderstandandpredictpartners (EC2),andtheabilityofcompaniestocoordinatewiththeirbusinesspartners(EC3).

Information system maturity is the maturity level of SMEs in the adoption of information andtechnologysystems.Indicatorsofinformationsystemmaturityare adoptedfrom Raoetal.(2015),includingSMEshaveusedinformationsystemsand technology(ISM1),eachstrategyislinkedthroughinformationsystems(ISM2),and SMEsarealwaysdevelopinginformationsystemsandtechnology(ISM3).

Knowledge sharing is the process of creating a group of knowledge between individualsorgroupsthroughdirectorindirectinteractions(Yooetal.,2007).The knowledgesharingindicatorwasadoptedfromGibbertetal.(2002)danZanjanietal. (2008),includingSMEsareabletodevelopknowledgefrompartners(KS1),SMEs areabletoassimilateinformationaboutpartners(KS2),SMEsareabletodisseminate informationtopartners(KS3),andSMEsareabletoharmonizetheknowledgethey havewithpartnervalues(KS4).

SMEmarketingperformanceasameasureofthesuccessofSMEsinachievingthe levelofprofitabilityandgrowthinaccordancewithpreviouslydetermined(Ardyan, 2016).ThefocusofSMEmarketingperformancemeasurementismorelikelytobe growth.Theindicatorsdevelopedforthisvariableareprofitgrowth(SMP1),growth ofmarketshare(SMP2),andsalesgrowth(SMP3).Thisindicatorisadoptedfrom Acquaah(2012)danZhengetal.(2009).

Analisis data

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TheanalysisinthisstudyusesStructuralEquationModeling.Amosversion21isused whenp rocessingdata.BasedonresearchfromAndersonandGerbing(1988)SEM data analysis pr ocess is divided into two stages: (1) measurement model analysis,

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whichinvolvesinitialanalysiswithconfirmatoryfactoranalysis(CFA)tomeasurethe reliability and validity of latent variables, and (2) Structural model analysis, where the hypothesis is tested by examining the coefficient path and significance.

RESULT

Measurement Model Analysis

In the measurement model analysis, this study tests the validity and reliability. Validity and reliability are used to test research instruments.

Validity test is a test that is used to show the extent to which the measuring instrument used in measuring what is measured (Sekaran, 2003). The validity in this study was measured using loading factor and average variance extracted (AVE). Tabanick and Fidell (2013) reveal that the loading factor is related to the correlation between indicators and variables. The higher the loading factor on the indicator, the higher the contribution of the indicator to the variable. The required loading factor value is 0.5 (Ghozali, 2013). Average variance extracted (AVE) is a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error (Hair et al., 2010). The AVE value must be above 0.5 (Ghozali, 2013). Table 1 shows the loading factor and AVE values above 0.5. So, it can be concluded that the instrument developed is valid.

According to Sekaran (2003), reliability shows the extent to which the measurement is without bias (error free) and is able to guarantee consistent measurements across time and across various items in the instrument. Reliability test is done by using composite reliability and Cronbach Alpha. Composite reliability is defined as a measure of internal consistency of indicators of a formed variable that shows the degree in which variables are formed. Nunnally (1978) Kotler suggests that construct variables (composite reliability) must be above 0.7. Cronbach alpha measures the consistency of all scales used in research (Hair et al., 2010). Sekaran (2003) explained that the Cronbach alpha number at 0.70 is acceptable, above 0.80 is good. Table 1 shows that the reliability test (composite reliability and Cronbach Alpha) has met the requirements, so it can be concluded that the instrument is reliable.

Structural Model Analysis

Goodness of fit is examined to show that the built model have been fit with acquired data. In this research, all indicators of goodness of fit that have been used show good in goodness of fit. Here are the indicators of goodness of fit: Chi square = 67.265 (p value = 0.215); CMIN/DF = 1.140; RMSEA = 0.030; GFI = 0.939; CFI = 0.995; NFI = 0.961; RFI = 0.948; TLI = 0.993; IFI = 0.995; and AGFI = 0.906.

In order to examine the model and data analysis, we used supporting tool, AMOS version 21. Table 2 and Figure 2 show that all of the five hypotheses are accepted. First, e-collaboration capability has positive and significant influence on knowledge sharing (β=0.307; α<0.001). Second, knowledge sharing has positive and significant influence on SMEs marketing performance (β=0.349; α<0.001).

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Table 1. Hasil Uji Validitas dan Reliabilitas

Variabel and Indicator	Factor Loading	AVE	Composite Reliability	Cronbach Alpha
E-CollaborationCapability(EC)				
EC1 EC2 EC3	0.948 0.823 0.889	0.789	0.918	0.915
InformationSystemMaturity(ISM)				
ISM1 ISM2 ISM3	0.887 0.878 0.875	0.774	0.911	0.911
KnowledgeSharing(KS)				
KS1 KS2 KS3 KS4	0.789 0.873 0.891 0.843	0.722	0.912	0.911
SMEsMarketingPerformance(SMP)				
SMP1 SMP2 SMP3	0.910 0.921 0.789	0.767	0.907	0.894

Third, e-collaboration capability has positive and significant influence on SMEs marketingperformance(β=0.237;α<0.001).Fourth,informationsystemmaturity haspositiveandsignificantinfluenceonknowledgesharing(β=0.395;α<0.001). Fifth,informationsystemmaturityhaspositiveandsignificantinfluenceonSMEs marketingperformance(β=0.295;α<0.001).Table2showstheresulthypotheses examination.

dISCUSS

Theresultsofthisstudyindicatethate-collaborationcapabilityhasapositiveand significanteffectonknowledgesharing.Theresultsofthisstudysupportprevious research,wherecompaniesthatareabletocarryoutinnovativecollaboration(e.g. electronicbasedcollaboration)willinfluencethelevelofknowledgeandaccelerate accesstoknowledge(Zhengetal.,2013).Inconductingcooperation,SMEs areoften

Table 2. The result of hypotheses test

Hypotheses	Result	Explanation
H1:E-CollaborationCapability→KnowledgeSharing	β=0.307;α<0.001	H1isaccepted
H2:Knowledgesharing→SMEsMarketingPerformance	β=0.349;α<0.001	H2isaccepted
H3:E-CollaborationCapability→SMEsMarketingPerformance	β=0.237;α<0.001	H3isaccepted

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H4:InformationSystemMature→KnowledgeSharing	β=0.395;α<0.001	H4isaccepted
H5:InformationSystemMature→SMEsMarketingPerformance	β=0.295;α<0.001	H5isaccepted

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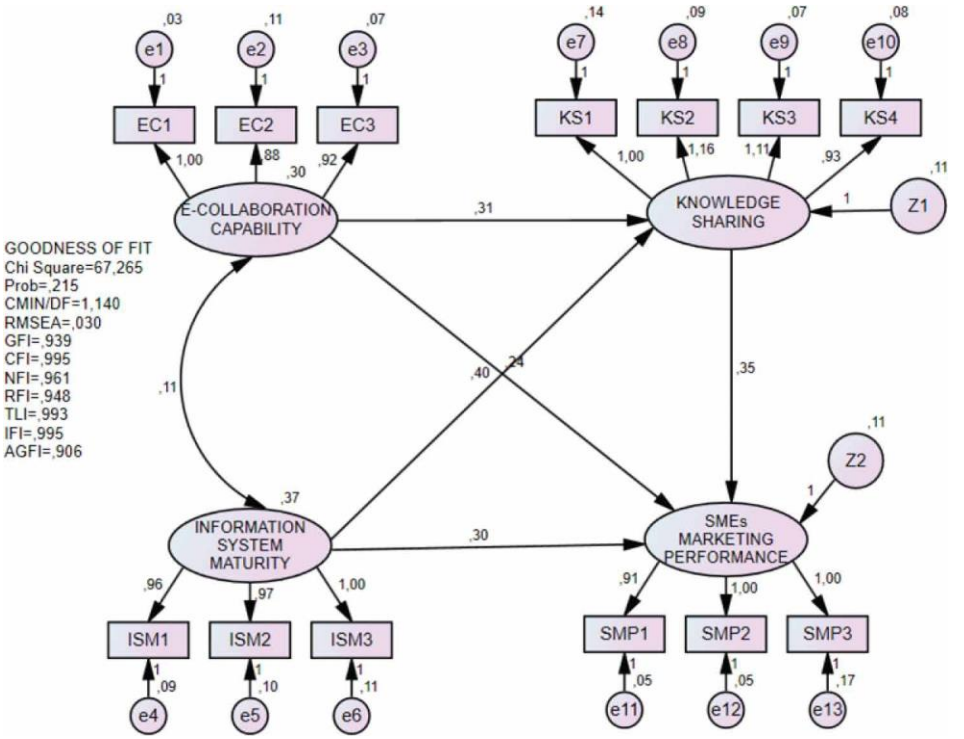
Figure 2. Hasil full model



limited by geographical distance. These limitations make it difficult for SMEs to communicate and establish relationships. The use of IT in collaboration makes it easier for SMEs to communicate and share information. Tanriverdi (2005) argues that IT-based coordination mechanisms can increase the reach and wealth of corporate knowledge resources, and enable business units to learn about opportunities to share knowledge with each other.

SMEs in Indonesia have used technology to collaborate with their customers or business partners. The ability of companies to use technology makes communication between companies and customers or business partners easier to do. Information technology facilitates knowledge creation, knowledge sharing/dissemination, and use of knowledge (Choi & Ko, 2012). Collaboration makes companies able to coordinate, discuss, and give mutual input to make decisions with their business partners. This collaboration will make it easy to exchange knowledge and coordinate (Santoro et al., 2006). IT-based collaboration will make it easier to find new ideas, skills and knowledge through knowledge sharing activities.

The results of this study reveal that knowledge sharing can significantly improve SMEs marketing performance. Knowledge sharing will make companies and actors in the network have the desire to form a shared vision. This common vision is usually the desire to integrate or

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combineresources(Tsai&Ghoshal,1998).Therefore,knowledge sharingwillbeabletomak epartiesinthenetworkequatethevisiontocreatenew

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values.Expósito-Langaetal.(2015)alsobelievesthatasharedvision(duetosharing knowledge)willhaveanimpactonthefirm'sinnovation.Knowledgesharingisan activitytodisseminateknowledgetobothinternalandexternalparties.Thisactivity iscertainlycapableofinformingallinformationorknowledgeaboutthebusiness. Based on findings from (Surijah, 2015), both employee engagement activities and knowledgesharingareassumedtohaveaninfluenceonfirm performance.

Koetal.(2011)verifythatelectroniccollaborationcanenhancefirm'sability toexploitinformationwhereitsmainpurposeistoimproveperformance.Knowledge sharing enables SMEs in Indonesia to make companies understand the needs of customersorbusinesspartners(Ardyan&Sugiyarti,2018).Collaborationcanmakeparties make better decisions. Knowledge makes it possible to make predictions, casualassociations,orpredictivedecisionsaboutwhattodo,unlikeinformationthat onlygivesusfacts.Effectivemanagerialdecisionswillhaveadirectimpactonthe performanceofSMEs.

E-collaborationcapabilityhasapositiveandsignificanteffectonSMEsmarketing performance.Theresultsofthisstudysupporttheresultsofpreviousstudies(Bensaou, 1997; Hart & Saunders, 1998; Ko et al., 2011). Computational capabilities, speed ofinformationprocessing,andcomputerconnectivityandInternettechnologycan greatlyimprovetheefficiencyofbusinessprocesses,aswellascommunicationand collaborationbetweenpeopleresponsibleformanaging,implementingandmaintaining them.(Wade&Hulland,2004).SMEsthatareabletocollaborateelectronicallywithconsumers who differ in geographical distance make the opportunity for SMEs to increasetheirmarketshareandincreasethenumberofcustomers.Theinternetisable toconnectallpartiesthataregeographicallydifferent.Electroniccollaborationwill haveanimpactonSMEsmarketingperformance.

Theresultsofthisstudyindicatethatinformationsystemmaturityhasapositive andsignificanteffectonknowledgesharing.Theresultsofthisstudysupportprevious research (Rao et al., 2015). Technology enables SMEs to communicate with other partieswithouthavingtomeetfacetoface.OftenSMEsneedavarietyofknowledge, skills,andexperienceowned bybusinesspartners.Theobstacleisthatthedistance fromthelocationofSMEstobusinesspartnersisveryfar.So,byusingsocialmedia(YouTube, Facebook, etc.), chatting, electronic mail, it will be very easy for both partiestocarryoutknowledgesharingactivitiesquickly.ThisiswhatmakesSMEs matureinmasteringinformationsystemsandtechnology,makingiteasiertocarry outknowledgesharingactivities.

Theresultsofthisstudyindicatethatinformationsystemmaturityhasapositive and significant effect on SMEs Marketing Performance. The results of this study supportprevious research(Bharadwaj,2000;Holsapple&Wu,2009;Raoetal.,2015). O'BrienandMarakas (2007)explainedthattheabilitytouseITasthemaindriver ofbusinessprocessreengineering,whichintegratesstrategiestopromotebusiness innovationwithastrategyofmakingmajorimprovementsinbusinessprocessesso thatcompaniescanobtainandmaintaincompetitiveness.ThemoreSMEshavethe abilitytoadoptsysteminformation,usuallywillhaveanimpactonthecostsincurred.

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Informationsystemshelpintheefficiencyofknowledgetransfer(Alavi&Leidner, 2001)andhaveanimpactonefficiencywhencoordinating.Therefore,theefficiency thatoccursinSMEswillalsohaveanimpactontheperformanceofSMEs.

IMPLICATIoN

ManagerialimplicationsasSMEscontinuetodeveloptechnologyandinformation systems are yet to be discovered. This capability in developing technology and information sy stems will enable companies to collaborate electronically. Both e-collaborationcapabilityandinformationsystemmaturitywillmaketheactivityof knowled gesharingandSMEsincreaseinmarketingperformance.

RESEARCH LIMTATIoN ANd FUTURE RESEARCH

Thelimitationsofthisstudyare(1)thisstudyisnotspecifictocertainindustriesand (2)thisst udydoesnotdeterminethematuritylevelofSMEsintheuseofinformation systems.Forfutu reresearch,focusonSMEsinindustriesrelatedtotechnology.

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focuses on salesperson performance, green marketing, creative marketing and entrepreneurial marketing.

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in collaborating with partners and customers. There

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process the data. The result of this research showed that all proposed hypotheses...

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H2: Knowledge sharing has a positive and significant effect on SMEs marketingper...

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H5: Information System Maturity has a positive and significant effect on SMEs

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Table 1. Hasil Uji Validitas dan ReliabilitasVariabel and Indicator

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Third,e-collaboration capability has positive and significant influence on SMEs

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Table 2. The result of hypotheses testHypothesesResultExplanationH1:E

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