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Interpersonal conflict and physicians' entrepreneurial intention: Education and motivation as mediating roles

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ABSTRACT

The study examines how interpersonal conflict (IC) influences physicians' entrepreneurial intention (EI), with entrepreneurial education (EE) and learning motivation (LM) serving as mediators. A survey of 150 Indonesian physicians was analyzed using PLS-SEM and FIMIX-PLS. The measurement model demonstrated acceptable fit indices, with SRMR = 0.083 and GoF = 0.365. Structural results indicate that EE ($\beta = -0.461$, $p < 0.01$) and LM ($\beta = -0.330$, $p < 0.05$) significantly decrease EI, whereas IC shows no significant direct or indirect effects; the IC–EI path is marginally significant $p = 0.052$. The mediation analysis confirms that EE and LM do not mediate the relationship between IC and EI. The model explains 57% of the variance in EI, although its predictive relevance is weak. These findings are robust, and the marginal significance of the IC–EI path ($p = 0.052$) is duly reported. FIMIX-PLS identifies three distinct physician segments: (i) cautious physicians, where both EE and LM reduce EI; (ii) motivation-oriented physicians, where LM increases EI despite EE's negative effect; and (iii) education-oriented physicians, where EE increases EI but LM suppresses it. The results suggest that physicians' entrepreneurial orientation is heterogeneous and influenced by paradoxical effects of education and motivation. This study extends EI models to the medical field, challenges the assumption of a positive role of education, and provides practical insights for designing targeted entrepreneurship programs and health policies in Southeast Asia, particularly Indonesia.

Contribution/ Originality: This study contributes to the literature by examining the underexplored role of interpersonal conflict in physicians' entrepreneurial intentions. It reveals the paradoxical and heterogeneous effects of entrepreneurship education and learning motivation, identifying three distinct physician segments through PLS-SEM and FIMIX-PLS analysis. These findings challenge the universal presumption that education fosters intention and provide a foundation for developing segmented training approaches and health policies.

1. INTRODUCTION

The global healthcare system is undergoing rapid transformation driven by demographic changes, technological advances, and increasing demands for efficiency and service quality. Physicians, traditionally viewed as clinical experts, are now increasingly expected to act as innovators and entrepreneurs in supporting healthcare reform [1]. The concept of physician entrepreneurship has gained worldwide attention, encompassing activities such as leading telemedicine initiatives, redesigning clinical workflows, introducing health technologies, and establishing private medical enterprises [2].

However, innovation in healthcare does not occur in a vacuum. Physicians work within organizational structures characterized by high interdependence, multidisciplinary collaboration, and limited resources. Such environments frequently give rise to interpersonal conflict (IC), defined as tension or disagreement between individuals arising from incompatibilities in values, goals, or interaction styles, often manifesting as interpersonal strain or animosity in teams [3, 4]. In clinical practice, IC may occur between physicians, nurses, administrators, or other staff, and has been shown to negatively affect teamwork, communication, and overall healthcare outcomes [2]. While conflict can sometimes stimulate creativity or constructive debate, unresolved and persistent conflict is more commonly associated with declining organizational performance, professional burnout, and reduced patient satisfaction [2, 5].

This situation is further complicated by the dual identities that physicians must reconcile. On one hand, medical professionalism is rooted in altruism and patient-centered service, while on the other, managerialism and entrepreneurship require physicians to consider cost efficiency, innovation adoption, and performance metrics. These competing roles often create tension that manifests as interpersonal conflict, role conflict, or resistance to organizational change [6].

Paradoxically, factors that are generally assumed to strengthen entrepreneurial orientation—such as entrepreneurial education (EE) and learning motivation (LM) do not always generate positive effects in the medical context. Entrepreneurial education is designed to enhance knowledge and self-efficacy, thereby fostering entrepreneurial intention (EI) [7]. Likewise, learning motivation is often viewed as an internal driver of continuous professional development [7, 8]. Yet, in a highly institutionalized domain such as medicine, these factors may produce unintended consequences: exposure to entrepreneurship can trigger ethical dilemmas (6), while high learning motivation may reinforce attachment to traditional norms, thereby reducing willingness to take entrepreneurial risks [9]. Despite the growing literature on entrepreneurial intention, empirical evidence explaining how IC influences physicians' willingness to engage in entrepreneurial activities remains limited. Most studies have focused on students or business professionals [10] while research specifically addressing physicians is scarce; this gap is particularly evident in Southeast Asia, including Indonesia.

To address this gap, this study investigates the influence of IC on physicians' EI in Indonesia, with EE and LM as mediating variables. Using partial least squares structural equation modeling (PLS-SEM), complemented by robustness checks and heterogeneity analysis (FIMIX-PLS), this research contributes by extending the entrepreneurial intention model into the medical profession and offering practical insights for healthcare systems.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1. Interpersonal Conflict in Healthcare Organizations

Interpersonal conflict (IC) is common in multidisciplinary clinical teams [2, 4]. Prolonged conflict undermines collaboration and job satisfaction [2, 11] and may inhibit physicians' willingness to take entrepreneurial risks. IC is defined as tension or disagreement between individuals arising from divergent goals, values, or interaction styles [3, 4]. In healthcare settings, physicians frequently operate within multidisciplinary teams where role ambiguity, heavy workloads, and hierarchical structures heighten the likelihood of conflict [2, 5]. Empirical studies show that unresolved conflict erodes collaboration, reduces job satisfaction, and contributes to professional burnout [2, 5]. For physicians, IC is not merely relational but also entangled with professional identity. Physicians must navigate dual expectations: clinical professionalism rooted in altruism and organizational pressures emphasizing managerialism and efficiency. This tension reduces risk-taking behavior and weakens entrepreneurial engagement.

H_1: Interpersonal conflict affects physicians' entrepreneurial intention.

2.2. Entrepreneurial Education and Entrepreneurial Intention

Entrepreneurial education (EE) is typically assumed to enhance entrepreneurial intention (EI) by strengthening knowledge and self-efficacy [12, 13]. Within medicine, however, EE may also highlight business risks and ethical

dilemmas [14]. The Theory of Planned Behavior [15] and prior research confirm that education often improves self-efficacy and perceived behavioral control, thereby increasing EI. Empirical studies have consistently reported positive correlations between EE and EI among students and professionals. Yet, in highly professionalized domains such as medicine, the effect may be paradoxical. Physicians exposed to EE may become more aware of ethical dilemmas and institutional barriers to reconciling clinical and entrepreneurial roles, thereby weakening their EI [7]. Given mixed and context-dependent evidence in medicine, we refrain from stating a directional hypothesis for the EE→EI link. Instead, we test this path with two-tailed procedures and report its sign and magnitude empirically. Accordingly, any negative association is interpreted as a paradoxical effect consistent with institutional constraints in medical professionalism.

H_2: Interpersonal conflict affects physicians' entrepreneurial education.

2.3. Learning Motivation and Entrepreneurial Intention

Learning motivation (LM) reflects the internal drive to develop professionally [7, 16]. While typically linked to persistence and openness to opportunities [10], excessive LM may lead physicians to prioritize clinical excellence over entrepreneurial pursuits. LM is defined as the drive to acquire new knowledge and skills [9]. In entrepreneurship studies, LM is associated with self-directed learning, perseverance, and opportunity recognition. In medicine, however, LM is often expressed through continuing medical education, specialization, and academic advancement [10]. While generally positive, recent findings suggest that high academic or professional motivation may not translate into entrepreneurial action. Physicians with strong LM tend to pursue conventional academic or clinical pathways rather than entrepreneurial ventures, thereby reducing EI [12]. Because learning motivation in medicine often channels into conventional clinical/academic advancement, the direction of the LM→EI link is theoretically ambiguous. We therefore avoid a directional hypothesis, use two-tailed tests, and interpret any negative association as a paradoxical effect rather than a contradiction of theory.

H_3: Interpersonal conflict affects physicians' learning motivation.

2.4. The Mediating Role of Entrepreneurial Education and Learning Motivation

Beyond their direct effects, EE and LM may mediate the relationship between IC and EI. IC can shape how physicians perceive the value of EE and their motivation to learn. For instance, physicians facing high IC may lose enthusiasm for entrepreneurship-related training or learning opportunities, indirectly lowering EI. Conversely, some may respond by seeking EE or enhancing LM as coping mechanisms, though the ultimate impact on EI remains uncertain. Thus, empirically testing the mediating roles of EE and LM in the IC–EI relationship is essential.

H_4: Interpersonal conflict → entrepreneurial education → entrepreneurial intention (Mediation).

H_5: Interpersonal conflict → learning motivation → entrepreneurial intention (Mediation).

2.5. Hypothetical Model

The research model adapts prior studies linking entrepreneurial education, motivation, and entrepreneurial intention [12] with modifications for the medical profession. Specifically, IC is introduced as a unique predictor in the healthcare context, while EE and LM are examined both as direct predictors and as mediators of EI.

2.6. Empirical Gap

2.6.1. IC → EI: Evidence from General Domains (Economics/Business/Management), Not Physicians

Outside the medicine field, research linking conflict, both work-to-venture role conflict and work–family conflict to entrepreneurial intention (EI) is well established in economics, business, and management. Carr, et al. [17] formalize work-to-venture conflict among hybrid entrepreneurs and show how collisions between job and venture roles shape transitions into entrepreneurship (an indicator of EI) [17]. Meanwhile, Kawai, et al. [18] demonstrate

that work–family conflict drives exit intention via entrepreneurial regret, underscoring conflict as a key psychological mechanism in entrepreneurial decisions [18]. In academic settings, it is also found that role conflict undermines faculty members' entrepreneurial intention and performance, again, strong evidence outside clinical domains [19]. Even contemporary studies of hybrid entrepreneurship intention rely on non-medical populations, emphasizing motivational dynamics without addressing physicians' interpersonal conflicts [20]. Consequently, a salient empirical gap remains: whether and how interpersonal conflict influences physicians' EI, a profession marked by distinct governance, norms, and institutional pressures compared with typical entrepreneurs.

2.6.2. Focus Studies on Physicians: Intrapreneurship and Dual Roles

Research on physicians tends to examine intrapreneurship (innovation initiatives within hospitals or universities) or development motives driven by organizational demands, rather than testing the causal mechanism IC→(EE/LM)→EI. Qualitative studies of early-career physicians highlight organizational improvement drives and institutional identification; classic cases foreground intra-organizational power dynamics; and other work explores academic/hospital intrapreneurship, enriching context but still not testing how interpersonal conflict shapes entrepreneurial intention [21, 22].

Research for physicians also frequently addresses dual roles, especially the physician–manager role. In China, medical-education reforms strengthen leadership and management competencies to prepare graduates who are not only clinically proficient but also collaborative [23, 24]. Across Asia (e.g., India), leadership competencies are integrated into curricula [25]. In Europe (the UK), leadership and management standards have been set for all doctors and dentists [23]. In the United States, physician leadership development programs, including business strategy, finance, and quality improvement, are offered from the early stages of medical training [26].

2.6.3. Indonesian Locus

In Indonesia, publications on health-sector entrepreneurship are largely conceptual or ecosystem-oriented (e.g., primary-care entrepreneurship editorials; digital-health landscape reviews; open-innovation analyses), emphasizing opportunities, competencies, and policy rather than empirical IC→EI tests among physicians [27]. Consequently, quantitative, physician-based evidence examining interpersonal conflict, entrepreneurial education (EE), and learning motivation (LM) together with behavioral segmentation (e.g., FIMIX-PLS) is still scarce. Therefore, the national push for innovation and medical entrepreneurship heightens the urgency for local empirical evidence to inform timely, context-appropriate training policies in Indonesia.

3. METHODOLOGY

3.1. Research Framework

This study employed a quantitative, cross-sectional survey design to investigate the effect of interpersonal conflict (IC) on physicians' entrepreneurial intention (EI), with entrepreneurial education (EE) and learning motivation (LM) as mediating variables. The structural relationships among variables were analyzed using partial least squares structural equation modeling (PLS-SEM), complemented with robustness checks and unobserved heterogeneity analysis through Finite Mixture PLS (FIMIX-PLS).

Figure 1 illustrates the proposed research framework examining the effect of interpersonal conflict on physicians' entrepreneurial intention, mediated by entrepreneurial education and learning motivation, while indicating the hypothesized causal paths (H1–H5) for empirical validation.

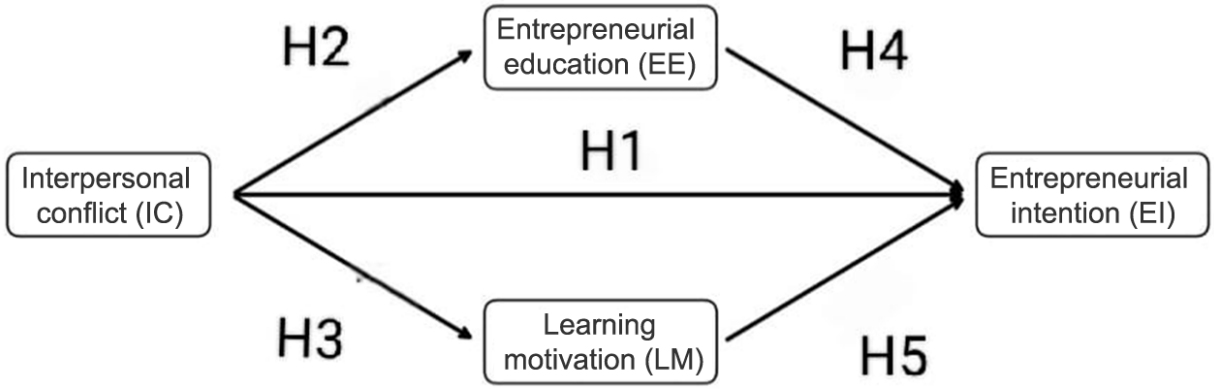

Figure 1. Research framework: The influence of interpersonal conflict on physicians' entrepreneurial intention, with the mediating role of entrepreneurial education and learning motivation.

3.2. Research Hypotheses

Based on the above research framework, this study proposes the following research hypotheses.

H_1: Interpersonal conflict → Entrepreneurial intention.

H_2: Interpersonal conflict → Entrepreneurial education.

H_3: Interpersonal conflict → Learning motivation.

H_4: Interpersonal conflict → Entrepreneurial education → Entrepreneurial intention (mediation).

H_5: Interpersonal conflict → Learning motivation → Entrepreneurial intention (mediation).

Clarification on non-directional tests. We do not posit directional predictions for the EE→EI and LM→EI paths. These links are estimated within the structural model and evaluated with two-tailed significance tests.

3.3. Population and Sample

The target population consisted of physicians working in healthcare institutions across Indonesia, including hospitals, community health centers (puskesmas), and private clinics. Respondents were recruited using purposive sampling based on the criteria of having clinical practice experience and potential exposure to entrepreneurial education. A total of 150 physicians participated in the survey, all of whom yielded valid responses after data cleaning. Demographic variables collected included age, gender, years of practice, and institutional affiliation. Ethical standards were strictly followed, and all participants provided informed consent either verbally or in writing prior to participation.

3.4. Measurement Instruments

Data were collected through a structured questionnaire using a five-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). The constructs were operationalized as follows.

- Interpersonal Conflict (IC): Three items adapted from organizational conflict literature.
- Entrepreneurial Education (EE): Four items capturing exposure to both formal and informal entrepreneurial training in healthcare contexts.
- Learning Motivation (LM): Four items reflecting intrinsic and extrinsic motivation for professional learning.
- Entrepreneurial Intention (EI): Six items adapted from established EI scales, contextualized for medical entrepreneurship.

All constructs were modeled reflectively, in line with recommended practices for PLS-SEM measurement models.

3.5. Data Analysis

Data analysis was performed using SmartPLS 4. The analytical procedure consisted of.

1. Measurement model evaluation: assessment of indicator reliability (outer loadings), internal consistency reliability (Cronbach's alpha, composite reliability), convergent validity (average variance extracted), and discriminant validity (HTMT ratio).
2. Structural model evaluation: analysis of path coefficients, explained variance (R^2) for endogenous constructs, effect sizes (f^2), and predictive relevance (Q^2).
3. Mediation analysis.
4. Model fit and predictive relevance: standardized root mean square residual (SRMR), normed fit index (NFI), and PLS Predict procedure.
5. Robustness checks: testing for linearity and endogeneity using the Gaussian copula approach.
6. Heterogeneity analysis: application of FIMIX-PLS to identify unobserved heterogeneity and segment-specific structural paths.

All statistical tests were conducted using bootstrapping with 5,000 resamples to assess the significance of path coefficients. Statistical reporting note: unless otherwise stated, two-tailed tests were used with thresholds $p<0.05$ = significant; $0.05\leq p<0.10$ = marginal; $p\geq 0.10$ = not significant. p-values are reported to three decimals.

Table 1. Outer loadings.

Construct	Indicator	Factor loading	Cronbach's alpha	CR	AVE
Entrepreneurial education	EE3	0.902	0.865	0.871	0.713
	EE4	0.826			
	EE5	0.799			
	EE7	0.848			
Entrepreneurial intentions	EI1	0.776	0.900	0.914	0.669
	EI2	0.905			
	EI3	0.903			
	EI4	0.748			
	EI5	0.762			
	EI6	0.800			
Interpersonal conflict	IC1	0.876	0.714	0.770	0.631
	IC2	0.762			
	IC3	0.739			
Learning motivation	LM1	0.871	0.840	0.848	0.676
	LM2	0.823			
	LM4	0.836			
	LM6	0.756			

4. RESEARCH RESULTS

4.1. Evaluation of the Reflective Measurement Model

Table 1 shows the outer loadings, reliability, and validity measures for all constructs in the reflective measurement model. The outer loading analysis confirmed that all indicators met the minimum threshold of 0.70, establishing convergent validity. Factor loadings for EE ranged between 0.799–0.902; for EI, between 0.748–0.905; for IC, between 0.739–0.876; and for LM, between 0.756–0.871. Although IC3 (0.739) and EI4 (0.748) were near the lower bound, both were still acceptable and retained in the model. The strongest indicators were EE3 (0.902) and EI2/EI3 (0.905; 0.903).

Reliability testing showed Cronbach's alpha values ranging from 0.714 to 0.900 and composite reliability (CR) values between 0.770 and 0.914, all exceeding the recommended 0.70 cutoff. Average variance extracted (AVE) values were above 0.50 for all constructs. Despite IC having the lowest Cronbach's alpha (0.714), it remained acceptable. Overall, the measurement model demonstrated solid internal consistency and convergent validity, making it suitable for structural analysis.

Table 2. R^2.

Variable Endogen	R^2	Q^2predict
Entrepreneurial education	0.016	-0.014
Entrepreneurial intentions	0.570	0.020
Learning motivations	0.009	-0.023

4.2. Evaluation of the Structural Model

Table 2 displays the R^2 values and predictive relevance (Q^2predict) for the endogenous variables. The explained variance (R^2) indicates that **EE** (R^2 = 0.016) and **LM** (R^2 = 0.009) are weakly explained by IC, whereas **EI** (R^2 = 0.570) is moderately explained by the combined effects of IC, EE, and LM. Thus, the model accounts for 57% of the variance in entrepreneurial intention.

Path coefficient analysis revealed that EE ($\beta = -0.461$, $p = 0.001$) and LM ($\beta = -0.330$, $p = 0.019$) had significant negative effects on EI. The IC → EI path trended negative but did not reach the conventional 5% level ($\beta = -0.131$, $p = 0.052$; two-tailed); therefore, we describe it as marginal. Similarly, IC → EE ($\beta = 0.125$, $p = 0.269$) and IC → LM ($\beta = 0.094$, $p = 0.439$) were non-significant. Table 3 summarizes the results of hypothesis testing, including path coefficients and significance values. These results suggest that, paradoxically, entrepreneurial education and learning motivation reduce physicians' entrepreneurial intentions, while interpersonal conflict exerts only a marginal influence.

Table 3. Hypothesis testing.

Hypothesis Path	Path coefficient	t statistics	P values
EE -> EI	-0.461	3.307	0.001
IC -> EE	0.125	1.106	0.269
IC -> EI	-0.131	1.941	0.052
IC -> LM	0.094	0.774	0.439
LM -> EI	-0.330	2.356	0.019
IC -> EE -> EI	-0.058	0.940	0.347
IC -> LM -> EI	-0.031	0.684	0.494

4.3. Mediation Analysis

Bootstrapping results indicated that neither EE nor LM mediated the relationship between IC and EI. Specifically, the indirect effects IC → EE → EI ($\beta = -0.058$, $p = 0.347$) and IC → LM → EI ($\beta = -0.031$, $p = 0.494$) were not significant. This confirms that EE and LM act as independent predictors rather than mediating variables.

Note: Two-tailed bootstrapping (5,000 resamples); significance thresholds: $p < 0.05$ = significant; $0.05 \leq p < 0.10$ = marginal; $p \geq 0.10$ = not significant; p-values reported to three decimal places.

Table 4. SRMR.

Model Type	Original sample (O)	Sample mean (M)	95%	99%
Saturated model	0.083	0.070	0.086	0.105
Estimated model	0.198	0.086	0.112	0.127

Table 5. Q^2 Predict.

Endogenous Variable	Q^2predict	RMSE	MAE
EE	-0.014	1.047	0.893
EI	0.020	1.039	0.847
LM	-0.023	1.041	0.937

4.4. Model Fit and Predictive Relevance

The model exhibited adequate fit, as shown in Table 4, which reports the Standardized Root Mean Square Residual (SRMR) values for model fit assessment. The SRMR value = 0.083 (< 0.10) and GoF = 0.365 (large

category). PLS Predict results showed that EE (Q^2 = –0.014) and LM (Q^2 = –0.023) lacked predictive relevance, while EI (Q^2 = 0.020) displayed very weak predictive power. Table 5 provides the Q^2 predict values, RMSE, and MAE metrics for assessing the model's predictive relevance. These findings suggest that the model is stronger for explaining relationships than for pure prediction.

Table 6. Significance test for the variable's quadratic effect on EI.

Tested Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
EE -> EI	0.513	0.535	0.274	1.873	0.061
IC -> EE	0.016	0.040	0.036	0.437	0.662
IC -> EI	0.042	0.059	0.056	0.746	0.455
IC -> LM	0.009	0.033	0.037	0.243	0.808
LM -> EI	0.014	0.025	0.031	0.446	0.655
QE (EE) -> EI	0.310	0.296	0.166	1.865	0.062
QE (IC) -> EI	0.001	0.010	0.018	0.064	0.949
QE (LM) -> EI	0.007	0.020	0.031	0.219	0.827

Table 7. Significance test for the variable's quadratic effect on EE and LM.

Tested Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
EE -> EI	0.260	0.320	0.212	1.226	0.220
IC -> EE	0.018	0.042	0.039	0.462	0.644
IC -> EI	0.039	0.054	0.045	0.874	0.382
IC -> LM	0.008	0.032	0.036	0.225	0.822
LM -> EI	0.134	0.166	0.131	1.024	0.306
QE (IC) -> EE	0.007	0.018	0.025	0.285	0.776
QE (IC) -> LM	0.003	0.014	0.019	0.138	0.891

4.5. Robustness Checks

Robustness tests confirmed the stability of the structural paths. Table 6 shows the significance tests for the quadratic effects of variables on Entrepreneurial Intention (EI). Quadratic effect testing showed no significant nonlinear influences, and Gaussian copula results confirmed that endogeneity did not bias the estimates. Accordingly, within the limits of a cross-sectional design, the relationships among IC, EE, LM, and EI appear stable and approximately linear, supporting an associative (not causal) interpretation. Table 7 displays the significance tests for quadratic effects of variables on Entrepreneurial Education (EE) and Learning Motivation (LM). The results confirm the absence of significant quadratic relationships for these variables.

Table 8. Results of FIMIX-PLS Analysis.

Criteria/Segment	S1 (46.2%)	S2 (27.7%)	S3 (26.1%)	Notes
R^2(EI)	0.402	1.000	1.000	Moderate – very high
EE → EI	–0.441	–1.969	+1.030	Different direction
LM → EI	–0.267	+1.014	–1.928	Different direction
IC → EE	small (+)	+0.916	–0.792	Significantly different
IC → LM	0	+0.929	–0.806	Significantly different
IC → EI	Negative small	0	0	Weak

4.6. Heterogeneity Analysis (FIMIX-PLS)

Table 8 summarizes the results of the FIMIX-PLS analysis, revealing three distinct physician segments with different path patterns:

- Segment 1 – Cautious Group (46.2%): Both EE → EI and LM → EI were negative, indicating that exposure to entrepreneurial education and learning motivation reinforced risk aversion.

- Segment 2 – Motivation-Oriented Group (27.7%): EE → EI was negative, while LM → EI was positive, suggesting that learning motivation rather than education drove entrepreneurial intention.
- Segment 3 – Education-Oriented Group (26.1%): EE → EI was positive, but LM → EI was negative, indicating that entrepreneurial education encouraged intention, whereas academic motivation hindered it.

Across all segments, IC-related paths (IC → EE, IC → LM, IC → EI) remained non-significant. These findings confirm that physicians' entrepreneurial orientations are heterogeneous and shaped by paradoxical effects of education and motivation, with aggregate-level results masking substantial subgroup differences.

5. DISCUSSION

5.1. Interpersonal Conflict and Entrepreneurial Intention

This study finds that interpersonal conflict (IC) does not reach conventional significance for EI ($p = 0.052$); thus, we treat the IC–EI link as marginal. In clinical settings, IC is linked to impaired teamwork, burnout, and diminished care quality rather than entrepreneurial drive [2, 5]. From a professional-identity perspective, physicians tend to treat conflict as a threat to core clinical values rather than an entrepreneurial cue [28]. Consistent with this interpretation, our Indonesian sample shows little evidence that IC translates into greater EI. These patterns underline the need for a contextualized EI framework that explicitly incorporates the salience of clinical identity norms in medical organizations.

5.2. The Paradox of Entrepreneurial Education (EE)

We emphasize that the negative EE→EI coefficient does not contradict our hypotheses; rather, it reflects a paradoxical effect anticipated by our non-directional framing, wherein entrepreneurship education heightens risk/ethical salience under strong professional norms. Unexpectedly, entrepreneurial education (EE) exerts a significant negative effect on EI. This paradox contradicts conventional theories such as the Theory of Planned Behavior [15], and prior research frequently reports positive associations between entrepreneurship education and entrepreneurial intention [10, 12, 13].

In medical contexts, exposure to EE does more than transfer knowledge; it exposes physicians to the harsh realities of business risks, ethical dilemmas, and administrative burdens. Rather than encouraging entrepreneurship, these insights undermine entrepreneurial aspirations. This finding supports paradox theory [29] whereby mechanisms typically viewed as enablers can, within norm-bound professions, become constraints. For physicians, entrepreneurship education functions less as a bridge to innovation and more as a mirror that reinforces the divide between clinical identity and business logic.

5.3. The Paradox of Learning Motivation (LM)

Similarly, the negative LM→EI effect is interpreted as paradox-consistent: higher learning motivation can reinforce commitment to traditional clinical/academic tracks, thereby dampening entrepreneurial intention. Learning motivation (LM) also exerts a significant negative effect on EI. Conventionally, LM is associated with persistence and openness to new opportunities [10].

Among physicians, however, LM is largely confined to clinical advancement, pursuing specialization, certification, and academic careers rather than exploring entrepreneurial opportunities. The result is paradoxical: the higher the learning motivation, the stronger the attachment to traditional professional pathways, and the weaker the willingness to assume entrepreneurial risk. Thus, in medicine, LM shifts from a driver of entrepreneurship to a guardian of the professional status quo. Rather than acting as an "entry point" to entrepreneurial behavior, LM in the medical domain serves as a "gatekeeper" of clinical professionalism.

5.4. The (Non-) Mediating Role of EE and LM

Mediation analysis confirms that neither EE nor LM mediates the IC–EI relationship. Instead of serving as conduits, both act as independent predictors that weaken entrepreneurial intention. This challenges the conventional assumption that organizational conflict naturally flows through education or motivation into entrepreneurial behavior.

For physicians, IC is organizational "noise" that fails to penetrate the walls of professional identity. Thus, entrepreneurial intention is shaped primarily by the tension between professionalism and managerialism, not by the dynamics of interpersonal conflict often romanticized in organizational studies [5].

5.5. Physician Heterogeneity (FIMIX-PLS)

The FIMIX-PLS analysis highlights that physicians are far from homogeneous in their responses to EE and LM. Instead, three distinct and contradictory subgroups emerge:

- Segment 1 – The Cautious (46%): Both EE → EI and LM → EI are negative, indicating that education and learning reinforce risk aversion. Education heightens awareness of risks, while academic learning binds physicians to clinical conservatism.
- Segment 2 – Motivation-Oriented (28%): EE → EI is negative, but LM → EI is positive. Here, learning motivation, not education, drives entrepreneurial intention, often energized by personal resilience in the face of conflict.
- Segment 3 – Education-Oriented (26%): EE → EI is positive, but LM → EI is negative. Education sparks entrepreneurial aspirations, but academic motivation quickly suppresses them, reflecting the ambivalence of institutionalized learning.

These findings dismantle the illusion of homogeneity: aggregate analysis conceals the fact that what empowers one subgroup may demotivate another. Such heterogeneity is not mere statistical noise but a reflection of professional identity fragmentation, some physicians entrenched in clinical traditionalism, some energized by conflict, and a minority transforming education into entrepreneurial drive.

5.6. Limitations and Future Research

5.6.1. Limitations

This study has several limitations. First, its cross-sectional design prevents strong causal inference. Second, the non-probability, single-country sample of Indonesian physicians limits generalizability across systems and cultures; specialties and career stages were not proportionally stratified. Third, all variables rely on single-respondent self-reports, which may introduce common-method bias; future work should include multi-source or objective indicators. Fourth, entrepreneurial education (EE) emphasizes exposure rather than quality, and learning motivation (LM) captures general professional drive rather than domain-specific motives; both may attenuate construct precision. Fifth, this research explains intention rather than behavior; translating EI into actual entrepreneurial entry remains untested. Sixth, FIMIX-PLS segmentation is sample-dependent; stability and measurement invariance across segments were not examined.

5.6.2. Future Research

We encourage the use of longitudinal or qualitative design methods and cross-country, specialty-stratified samples to test external validity. Incorporating multi-source data (administrative outcomes, supervisor/peer ratings), testing measurement invariance and segment stability, and modeling moderators (organizational support, professional identity strength, institutional constraints) could clarify when EE and LM become paradox-consistent negatives. Finally, follow-up studies should track behavioral outcomes (venture creation, opportunity recognition, telemedicine initiatives) to bridge the EI-behavior gap.

6. CONCLUSION AND IMPLICATIONS

6.1. Conclusion

This study examined the influence of interpersonal conflict (IC) on physicians' entrepreneurial intention (EI), while considering the mediating roles of entrepreneurial education (EE) and learning motivation (LM). Based on PLS-SEM and FIMIX-PLS analysis, several key conclusions emerge:

1. IC does not significantly affect EI, either directly or indirectly. Relational conflict in medical workplaces is not a decisive factor in shaping physicians' entrepreneurial aspirations.
2. EE and LM exert significant negative effects on EI, revealing a paradox: the greater the exposure to entrepreneurial education and learning motivation, the lower physicians' entrepreneurial intention.
3. EE and LM do not function as mediators; instead, they operate as independent predictors that suppress EI.
4. FIMIX-PLS uncovers heterogeneity with three distinct physician segments:

- Segment 1 (Cautious): Both EE and LM reduce EI.
- Segment 2 (Motivation-Oriented): LM increases EI even though EE remains negative.
- Segment 3 (Education-Oriented): EE increases EI, while LM decreases it.

5. Overall, the model explains 57% of the variance in EI with adequate model fit, though its predictive power remains modest.

These findings confirm that physicians' entrepreneurial orientation is heterogeneous and shaped by the complex interplay of education, motivation, and professional identity.

6.2. Implications

6.2.1. Theoretical Implications

This study extends the entrepreneurial intention model into the medical domain and challenges the universal assumptions of the Theory of Planned Behavior. First, education and motivation can function negatively, underscoring the need to integrate institutional theory and the professionalism–managerialism paradox [30]. Second, the FIMIX-PLS results demonstrate that heterogeneity is not merely statistical noise but a genuine reflection of diverse professional identities among physicians. This enriches EI theory with a multi-segment perspective.

6.2.2. Practical Implications

Physician entrepreneurship policy in Indonesia and more broadly in Southeast Asia remains trapped in the illusion of uniformity. Policymakers assume that all doctors can be trained through a single curriculum, and that business education alone will automatically produce clinician-entrepreneurs. The empirical evidence directly challenges this assumption. FIMIX-PLS reveals that some groups become even more resistant to entrepreneurship after exposure to training, highlighting the danger of a one-size-fits-all approach.

Such programs are not merely ineffective; they risk backfiring, producing more conservative physicians who resist innovation rather than cultivating change agents. Ironically, institutions continue to celebrate the mere addition of "entrepreneurship" labels to medical curricula without recognizing the paradoxical effects they generate.

If the goal is to genuinely foster clinician-entrepreneurs, policy must undergo a radical shift: segmentation is the key. Innovator-physicians require access to health technology and telemedicine; academic physicians need harmonized integration between professionalism and managerialism; while cautious groups demand organizational support and conflict management mechanisms to unlock latent entrepreneurial potential.

In short, without the courage to dismantle the myth of universality, physician entrepreneurship programs will remain cosmetic policies appealing on paper but sterile in practice, producing little more than symbolic change rather than genuine transformation.

6.2.3. Policy Implications (Segment-Based Training for Physicians)

Our results indicate that one-size-fits-all programs are unlikely to work; training should be customized to physician subgroups.

6.2.3.1. For Government/Regulators

Embed entrepreneurship within national medical-education standards using context-specific areas (e.g., Maritime/Naval Medicine, Urban/Industrial Medicine, Forestry/Remote Medicine).

6.2.3.2. For Medical Schools

Integrate entrepreneurial curricula into medical education that reflect the profession's distinctiveness and map to segments: *Cautious* (risk management, ethics-by-design, conflict resolution, low-stakes projects); *Motivation-oriented* (Venture labs, mentoring, industry networking, administrative fast-tracks); *Education-oriented* (advanced modules on regulation, reimbursement, tech transfer; lean experimentation).

6.2.3.3. For Healthcare Organizations (Hospitals/Clinics)

Integrate physicians with innovation teams and provide specific training for dokterpreneur (physician-entrepreneurship).

6.2.3.4. For Physicians

Reframe that entrepreneurship as complementary to professionalism. Courageously embrace new endeavors. Discard the notion that becoming an entrepreneur equates to betraying the medical profession, and instead believe that it represents an understanding of the development of medical knowledge itself. So every doctor's willingness to encourage locally relevant innovations aligned with Indonesia's geographic diversity.

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