Informal Learning: Approaches to Competencies Development for Construction Service Interns

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A R T I C L E I N F O	A B S T R A C T

Purpose Competencies development of students is an essential part for any educational institution. The current study aimed to examine the competency development of interns in the construction service sector through an informal learning approach. It investigated empirically the role of informal learning practices such as informal internship, team building activities, job rotation and social networking on the competency's development of private school students in Indonesia. **Method.** The sample of the study was selected through the purposive sampling method. Questionnaire was used as the data collection tools from students working as interns in a construction sector school. The questionnaires were distributed to the respondents by making personal visits to schools. The smart-PLS was utilized to explore the relationship between the constructs, which is considered the best statistical tool because it provides reliable findings even with complex models and large sample sizes.

Findings The results revealed that informal learning practices such as informal internship, team building activities, job rotation and social networking have a positive association with the competencies development of private school students in Indonesia. **Implications for Research and Practice.** This study is meaningful for the policymakers regarding developing policies about student competencies development.

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Introduction

Education is an essential part of human nature that is never abandoned. This means that humans are creatures who learn from natural events while they evolve. They acquire knowledge, attitudes, and skills through education. The Indonesian Law on National Education System No. 20, 2003 article 13 paragraph 1, states that "the education path consists of formal, informal, and non-formal education that can complement and enrich each other" (Indonesia - Law on the National Education System (No. 20/2003)). Particularly, the implementation of informal education can be found in family and community environment of the informal sector workers. In this case, informal education is intended to increase the knowledge and skills of workers. Informal education for workers is defined as education where learning is designed with informal situations, one person transfers valuable knowledge and skills to other people or co-workers to improve their work performance to be more effective and efficient (Meyers et al., 2013; Smith-Palmer et al., 2015).

An internship program is an out-of-school education unit which increases the independence of learning citizens (apprentices) (Misko, 2008). There are six models of apprenticeship, one of which is informal apprenticeship. Informal internships are internships where the learning process uses an informal learning approach. Usually, informal internships are held for workers or labourers who work in micro and small businesses (Gessler, 2019). Informal internships have two main principles: the workplace can be a place of learning, and there is an interaction between workers as instructors and apprentices (Steedman, 2015). Informal learning is also a lifelong process in which a person acquires and accumulates knowledge, skills, attitudes, and views from experiences and environmental exposures at home, at work, and at play, from examples of behavior and attitudes of family and friends travel. In informal learning, the individuals involved also carry out learning activities intentionally or unintentionally, not tied to a particular time or situation, and usually not imposed or determined by external instructors (He & Li, 2019; Peters & Romero, 2019).

Indonesia is a developing economy with so large population. Though organizational institutions here are providing thorough education to the students following the curriculum course, still there are many students who fail to get any formal education and therefore are unfit for any profession when they step out into practical economy. This results in the waste of human capital, which could be useful for the economy to meet the economic needs of the increasing population (Hasanudin et al., 2019). It is therefore often considered important to explore the significance of informal learning. This study has taken a most suitable practical example of informal learning taking place of the internees in a construction unit of private schools in East Java

This study analyzes informal learning among students at the workplace of the construction industry in the form of informal internship or a professional learning experience that provides meaningful, practical work relating to a student's subject of study(Kontovourki et al., 2017; Zehr & Korte, 2020). This includes team building activities (working in a group with cooperation), social networking (use of internet-based social platforms to stay connected with others) (Lockett et al., 2017), and job rotation (movement

from one job to another), with an intention to check their influences on student competencies development which in itself is the outcome of informal learning. The study also examined the role of such informal learning in the form of informal internship, team building activities, social networking, and job rotation in student competencies development within the context of private schools in East Java in Indonesia.

Private construction schools are invariably such operating business units that conduct activities in the construction service sector of Indonesia. They are the best place for learning and competence development for fresh interns from educational institutions within the country (Janssens et al., 2017; Wright et al., 2019). The human resources structure of this construction building includes foremen, chief builders, builder assistants, and construction laborers. A foreman plays the role of a labor sub-contractor and a supervisor in the construction work. A foreman is the in-charge of construction, who manages all the matters from hiring of the construction workforce and the completion of the contract with accuracy and reliability. A foreman, along with the chief builders passes directions to workers at the workplace (Gilliam et al., 2017; Oey & Lim, 2021). In private schools, the foreman is the source of informal learning for new employees or fresh interns from educational institutions. The chief builders, under the supervision of the foreman, transfer knowledge, abilities and skills to builders, builder assistants, and construction laborers. The new employees or interns as builders, builder assistants, and construction laborers, quite obviously, learn, receive and digest what the foreman or chief builders provide and are likely to develop skills in themselves intentionally or unintentionally for the profession in construction which the foreman and chief builders have (Osagie et al., 2018; Patahuddin & Logan, 2019). The aim behind this informal learning is to produce qualified and skilled workers in the construction industry. Thus, there has been an informal learning process between the foreman, the chief builders, and the construction workforce.

This study aimed to examine the competency development of workers in the construction service sector through an informal apprenticeship approach. The transfer of knowledge and skills between the foremen, chief builders, and construction workers occurs through an unstructured and unplanned learning environment. Such a learning setting is an illustration of informal internships that emphasizes the strength of individuals to take responsibility for their development and complex interactions. Informal internships complement the knowledge and skills that have been acquired while in school or an academic environment (Carliner, 2012; Malloch et al., 2010). Therefore, informal internships are needed to help workers in the construction service sector to be able to learn knowledge and improve their skills (develop competencies) to support their performance achievements.

Based on the explanation that has been described above, it is exciting and essential to research learning carried out by workers in these private construction school in the Java region. The basic objective of the current study was to analyze the relationship between informal learning in the form of an informal internship, team building activities, social networking, and job rotation in student competencies development. Among researchers and scholars, informal learning can take place even within educational institutions and its contribution can be seen in the form of students' knowledge development. However, little focus is given on informal learning impacts on students' development competencies. This

study attempted to remove this literary gap as the focus of this study was informal learning for competence development. This study was based on the premise that internship has been seen as the source of informal learning to analyze students' competencies development, team-building activities, social networking, and job rotation. This study also makes a difference by analyzing these four factors of informal learning in examining the students' competencies development.

This paper is structured as follows: After the background and introduction of the study, the second section presents a literature review of previous studies to find the relationship among the informal internship, team building activities, social networking, and job rotation in student competencies development. Following this section, Part three contains methodology applied for sample selection and data collection and analysis. Section four is the results section which analyzes the nexus among given factors and validity of the results, In the discussion section, a comparison is made with past studies. The study ends with a section on conclusion, implications, and future recommendations.

Literature Review

Process of Informal Apprenticeship for Workers in the Construction Services Sector

Learning for informal workers in the construction service sector is not the same as learning in formal education, where there is a curriculum and learning is implemented systematically. Informal learning does not occur with planned curricula, textbooks and didactic materials, structured attendance, clear educational goals, evaluation procedures, and the like. Informal learning occurs in a more dispersed and unorganized manner (Callanan et al., 2011; Latchem, 2014). In the informal apprenticeship learning of construction workers, the transfer of knowledge is not complemented by a curriculum and is not planned from learning or assessment of the learning materials. In such as case, the chief builders are considered as a learning resource in the learning process. The chief builder coordinates with the foreman regarding the workflow or transfer of knowledge and skills. Such a learning is thus carried out directly by builders, their assistants, and construction laborers as learners or apprentices. A good family relationship between each of these individuals is an essential element that must be considered in the continuity of learning. In addition, it is also accompanied by mutual trust, which is also considered necessary so that in practice, the apprentices can work well because they feel valued. This will help to create a comfortable work culture and a motivation to work (Dumay, 2015; Kang & Hau, 2014; Yan & Davison, 2013).

Such kind of informal learning is also seen as a broad implementation of integrative learning in the context of experience and not linked to a formal curriculum but to work experience and life situations. Such integrative learning can connect, apply, synthesize information, and utilize new information to form new knowledge. The learner is aware of this need to master the knowledge and skills to fulfill his work needs, so he deliberately seeks to know actively but does not realize that he is learning (Barber, 2012) informal apprenticeship process that provides changes to the workers. Changes in knowledge, skills, and attitudes help develop their competencies to support their performance in the construction services sector. In connection with these findings, it is in line with the research

results, which states that a learning process, including informal apprenticeship, also supports individual competencies. In this case, the individual acquires knowledge, skills, values, productivity, and attitudes applied in everyday life (Manoharan et al., 2021; Orando & Isabirye, 2018). Regarding the field of work, informal apprenticeship can also support individual performance in the workplace (Cerasoli et al., 2018; Janssens et al., 2017; Kotys-Schwartz et al., 2011).

Informal internships and competencies development

For success in the professional life, whether formal or informal, the students do need critical core competencies required for completing concerned job in practical life (Jeong et al., 2018). The common core competencies include knowledge, awareness, cognitive abilities like observation, concentration, analytical thinking, problem handling skills, and decision making, and physical skills like cooperation, communication, physical endurance, and particular work abilities (Lecat et al., 2018). These significant competencies cannot be acquired only from formal learning. Students need informal learning as well with an informal internship, team building activities, social networking, and job rotation which individually or collectively can develop competencies in students to keep pace with the practical professional requirements (Janssens et al., 2017). The contribution of informal learning in the form of an informal internship, team building activities, social networking, and job rotation for student competencies development has long been a subject of discussion in previous literature in diverse forms. The current study offers a literary review by setting a few appropriate hypotheses.

Caldana et al. (2021) presented a leading article in the field of education whose aim was to check how many forms, informal and non-formal learning experiences, contributed to developing sustainable development competencies (SDCs) among students in a Principles of Responsible Management Education (PRME) signatory business school. Data were collected from PRME signatory business school through questionnaires on competencies development in an online survey conducted to a sample of 274 students. Mann-Whitney U test and descriptive statistics were employed for analysis. Under informal learning, the informal internship's impact on students' sustainable development competencies was analyzed. According to this article, in an informal internship, the intern students learned by observing others at the workplace, shadowing them, and practicing a set of actions in the concerned business context. They developed a set of professional competencies prior to the beginning of their professional life. The intellectuals Ferreras-Garcia et al. (2019), made research on competencies development in higher students during informal tourism internships. A quantitative research method was applied, and questionnaires were directed to the supervisors of a student at an informal internship. The development of professional competencies in the bachelor's degree students at the School of Tourism and Hospitality Management Sant Ignasi was analyzed with the help of descriptive analysis and comparisons of sources to find differences in competencies among students doing internships. This study implied that students who were regular and serious during their tourism internships developed cognitive and physical competencies required for a job in the tourism industry. Based on the above arguments, a hypothesis was framed:

H[1]: *Informal internships have a positive association with competencies development in students.*

Team building activities and competencies development

Ueda (2018) investigated the student team integrating aspects of sustainability and student competence development in empirical design education. This study analyzed the inclinations, behaviors, and activities of students working as a team with eco-design activities and their impact on student's competencies development. A design project titled in Japanese "Sogo Project" was initiated where the team activities of students were analyzed. Undergraduate students from an industrial design education were the participants of this project. The project was a kind of informal learning and relied on pedagogical case studies. This study highlighted that when in an informal manner, the students are grouped in teams and tasks are assigned to them, they developed critical core competencies essential for the profession they were pursuing education or training for. Similarly, in another study, Lemken and Siguaw (2021), analyzed MBA students' teamwork, team effectiveness, and students competencies. The empirical data were gathered through experimental methodology, and interest inventory measurements were employed in marketing education to test the relationship among factors. The study revealed that when in an education institution, team activities are undertaken by students with a specific task, and interest is aroused in them, they can develop the ability of observation, effective communication, cooperation, allocating the task within a team, and get the desired outcomes. Thus, the team building activities enhance the professional core competencies in the students. Based on the literary views, the following hypothesis may be developed:

H²: *Team building activities have a positive association with competencies development in students.*

Social networking and competencies development

Social networking means the interaction with digital devices and internet-based social media platforms to make connections or stay linked with individuals, institutions, friends, family, or peers. The most popular social networking sites are WhatsApp, Facebook, YouTube, Instagram, Linked in and Twitter. The social networking is useful in the education sector as it promotes informal learning, which guarantees professional preparedness. The students from multidisciplinary professional schools engaged in social networking developed professional capabilities and showed an extraordinary performance in their practical life afterwards (Qi & Chau, 2018). Some educational institutions specially arranged technologies or periodical sessions on social networking or encouraged social networking to students for after class activities in personal life. Social networking enhanced knowledge, awareness, cognitive skills, and problem-solving abilities. Engaging in social networking can also be useful in developing physical skills required in the concerned discipline (Ab Rashid, 2018). The study conducted by Koranteng et al. (2019) investigated the relationship between social networking, students' engagement, and students competencies. The social capital theory was employed for investigation, and data were collected from 586 respondents who were students in higher education. For the analysis of the hypothesis, least square structural equation modelling was applied. This study examined that the students' social networking enhanced knowledge sharing. The enhanced knowledge and awareness led to students' engagement in their course and prior

professional training. In this way, they developed cognitive and physical competencies in the students. Hence, it can be hypothesized:

H³: Social networking has a positive association with competencies development in students.

Job rotation and competencies development

Job rotation during prior professional training for students in informal learning prepares students for traction performance in professional life by creating necessary competencies (Lee et al., 2019). From a professional and economic point of view, job rotation in a workplace is the transfer of employees from one position or job to another to meet different human resource management goals like orientation of new workers, job enrichment, future planning, training, career development, and avoiding issues like job burnout and job boredom. As the students from professional or curricular school systems are the future of the economy, they must also go through job rotation training prior to practical professional life. This job rotation during prior training enhanced the core competencies in students (Halberg et al., 2020). Empirical research in favor of informal learning was conducted by Becker and Bish (2017). As many institutions focus on the investment of informal education as well as training for installing informal approaches like mentoring, assignments, and job rotation, this study gave importance to both formal and informal learning. This investigation was based on a case study about the conduct of Australian nonprofit organizations, which focused on the increase in the level of managerial skills, formal as well as informal learning, and focused on the formal or informal learning for future career development. According to this study, in informal training, job rotation was practiced, which resulted in the development of students' competencies. These literary arguments provided a basis for the following hypothesis:

H⁴: Job rotation has a positive association with competencies development in students.

Research Methods

Research design

In this quantitative research, four predictors were used namely informal internship (II) with ten items, team building activities (TBA) with eight items (Hastings et al., 2018), job rotation (JR) with six items and social networking (SNW) with four items (Ali et al., 2021). Moreover, competencies development (CD) was also used as the predictive variable with ten items (Roche & Thoma, 2017). Figure 1 shows the variables of this study.
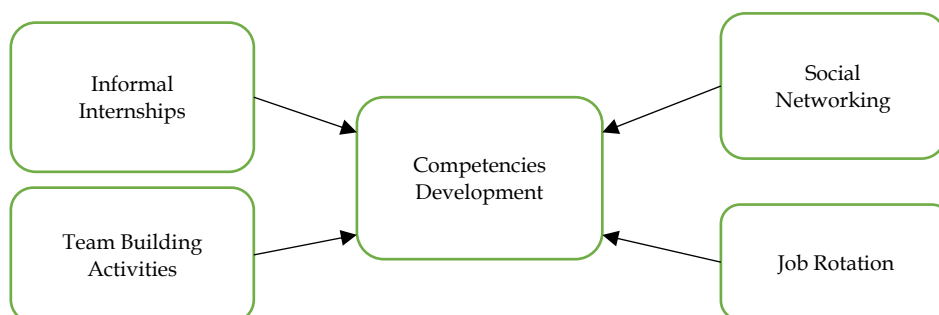
Figure 1. *Research model*

Research Sample

The primary source of data collection were the foremen, chief builders, builders, builder assistants, and construction laborers who were associated with the internees of private construction school students in Indonesia. The private school students working as interns in the construction sector were the respondents of the study. These respondents were selected based on purposive sampling method.

Research Instruments and procedure

The study used questionnaires as the primary source of data collection. The questionnaires were distributed to the selected students by making personal visits. Thus, a total of 1150 surveys were distributed but after one month only 759 were returned and used in the analysis. The response rate of the study was 66.00 percent.

Data analysis

Smart-PLS software was used to explore the association between the constructs. The smart-PLS is considered the best statistical tool because it provides reliable findings even with complex models and large sample sizes (Hair Jr et al., 2014).

Findings

The factor loadings in the results of the current study show the association among the items, and the thumb rule is that it should be higher than 0.50. Table 1 shows all figures have values higher than 0.50. In addition, the results also show Alpha values, which should be higher than 0.70. The figures indicate that their values are also higher than 0.70. Moreover, average variance extracted (AVE) and composite reliability (CR) are also shown to prove the convergent validity. The AVE values should also be more than 0.50 while CR value should be higher than 0.70. The results reveal that both meet the criteria and thus convergent validity and a valid and high association between items are proved.

Table 1

Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Competencies Development	CD1	0.683	0.893	0.913	0.539
	CD10	0.734			
	CD2	0.725			
	CD3	0.717			
	CD4	0.756			
	CD6	0.750			
	CD7	0.753			
	CD8	0.720			
	CD9	0.767			
Informal Internship	II1	0.696	0.904	0.920	0.537
	II10	0.709			
	II2	0.718			
	II3	0.702			
	II4	0.704			
	II5	0.735			
	II6	0.740			
	II7	0.784			
	II8	0.784			
	II9	0.748			
Job Rotation	JR1	0.823	0.861	0.899	0.641
	JR3	0.855			
	JR4	0.733			
	JR5	0.756			
	JR6	0.830			
Social Networking	SNW2	0.858	0.675	0.820	0.604
	SNW3	0.744			
	SNW4	0.724			
Team Building Activities	TBA1	0.743	0.877	0.904	0.543
	TBA2	0.807			
	TBA3	0.788			
	TBA4	0.758			
	TBA5	0.570			
	TBA6	0.776			
	TBA7	0.780			
	TBA8	0.642			

Table 2 presents the discriminant validity of the association between the constructs. The study used Fornell Larcker test to verify the discriminant validity. The results indicated that the first value that showed the relationships variable itself was larger than the other values in the column that showed the association with other constructs. These results indicated valid discriminant validity.

Table 2

Fornell Larcker

	CD	II	JR	SNW	TBA
CD	0.734				
II	0.607	0.733			
JR	0.621	0.605	0.801		
SNW	0.625	0.521	0.468	0.777	
TBA	0.662	0.645	0.473	0.464	0.737

Secondly, the current study used cross-loadings to verify the discriminant validity. The results indicated that values that show the relationships variable itself were larger than the other values that show the association with other constructs. These results indicated valid discriminant validity. Table 3 shows the cross-loadings results regarding discriminant validity.

Table 3

Cross-loadings

	CD	II	JR	SNW	TBA
CD1	**0.683**	0.490	0.479	0.364	0.416
CD10	**0.734**	0.636	0.463	0.564	0.504
CD2	**0.725**	0.630	0.455	0.623	0.489
CD3	**0.717**	0.583	0.459	0.472	0.476
CD4	**0.756**	0.590	0.425	0.554	0.513
CD6	**0.750**	0.572	0.475	0.411	0.538
CD7	**0.753**	0.570	0.472	0.393	0.538
CD8	**0.720**	0.596	0.458	0.333	0.442
CD9	**0.767**	0.642	0.427	0.366	0.449
II1	0.554	**0.696**	0.543	0.396	0.494
II10	0.512	**0.709**	0.361	0.316	0.410
II2	0.527	**0.718**	0.354	0.332	0.497
II3	0.503	**0.702**	0.354	0.340	0.453
II4	0.522	**0.704**	0.379	0.294	0.459
II5	0.660	**0.735**	0.433	0.409	0.562
II6	0.573	**0.740**	0.507	0.419	0.439
II7	0.632	**0.784**	0.440	0.342	0.481
II8	0.637	**0.784**	0.491	0.483	0.450
II9	0.635	**0.748**	0.515	0.448	0.469
JR1	0.578	0.579	**0.823**	0.375	0.427
JR3	0.441	0.437	**0.855**	0.384	0.360
JR4	0.476	0.432	**0.733**	0.390	0.413
JR5	0.538	0.518	**0.756**	0.365	0.351
JR6	0.405	0.403	**0.830**	0.350	0.318
SNW2	0.593	0.491	0.456	**0.858**	0.424
SNW3	0.392	0.304	0.311	**0.744**	0.290
SNW4	0.441	0.392	0.299	**0.724**	0.350
TBA1	0.456	0.441	0.339	0.298	**0.743**
TBA2	0.570	0.569	0.393	0.397	**0.807**
TBA3	0.497	0.487	0.372	0.290	**0.788**
TBA4	0.494	0.441	0.350	0.310	**0.758**
TBA5	0.431	0.424	0.279	0.316	**0.570**
TBA6	0.479	0.465	0.322	0.382	**0.776**
TBA7	0.491	0.461	0.373	0.356	**0.780**
TBA8	0.467	0.495	0.346	0.377	**0.642**

Thirdly, the current study has used Heterotrait Monotrait (HTMT) ratio to verify the discriminant validity. The results indicated that the values were lower than 0.90. These results indicated valid discriminant validity. Table 4 and Figure 2 shows the HTMT ratio results regarding discriminant validity.

Table 4

Heterotrait Monotrait ratio

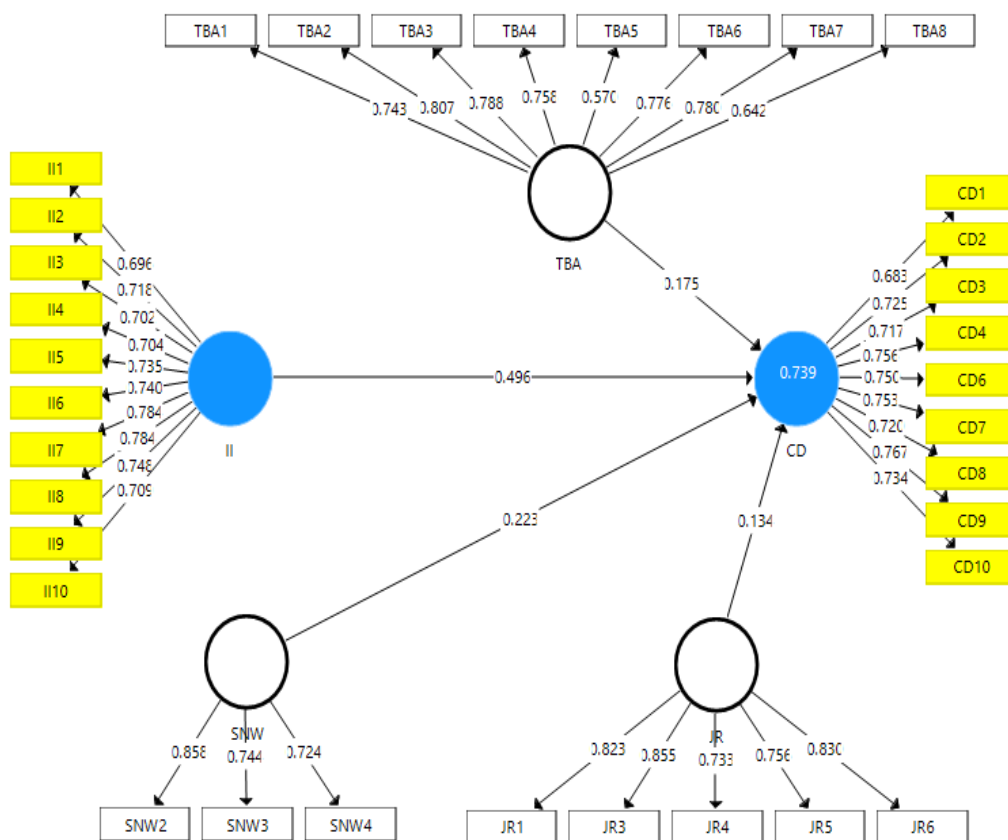|	**CD**	**II**	**JR**	**SNW**	**TBA**
CD					
II	0.886				
JR	0.695	0.663			
SNW	0.776	0.643	0.595		
TBA	0.746	0.722	0.537	0.593	

Figure 2. *Measurement assessment model*

The results related to the path analysis exposed that informal learning practices such as informal internship, team building activities, job rotation and social networking have a positive association with competencies development of private schools' students in Indonesia and H1, H2, H3 and H4 are accepted. The results indicated that if one percent change in II, the CD will change by 49.6 per cent and vice versa. In addition, the results also indicated that if one percent change in JR, the CD will change by 13.4 per cent and vice versa. Moreover, the results revealed that if one percent change in SNW, CD will change by 22.3 per cent and vice versa. Finally, the findings indicated that if one per cent change in TBA, CD will change by 17.5 per cent and vice versa. Table 5 and Figure 3 shows the association between all variables.

Table 5

A path analysis

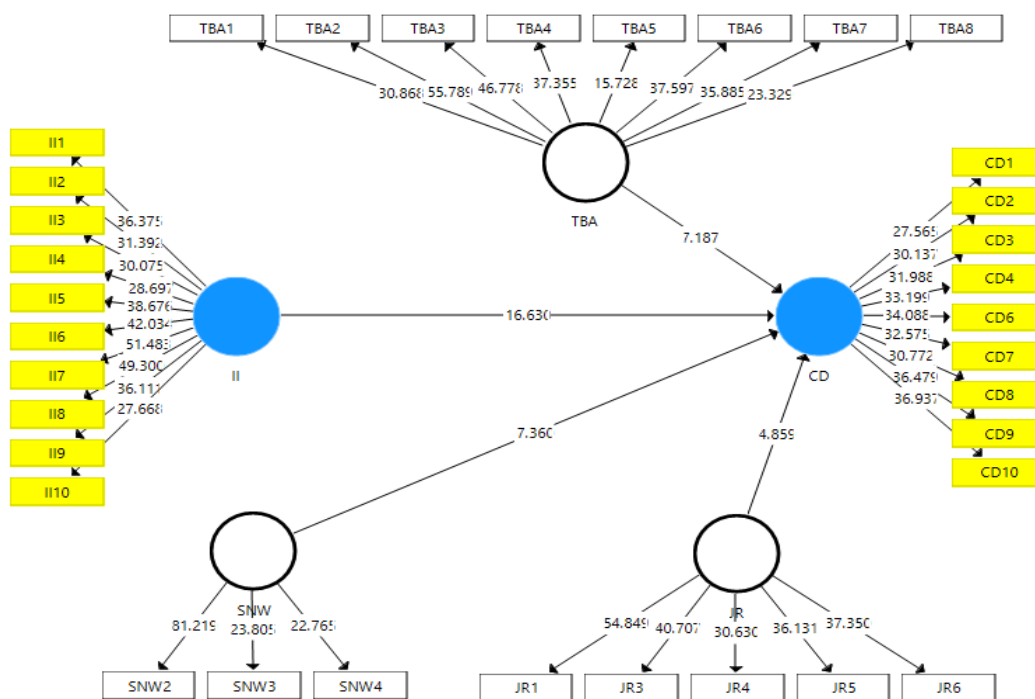| Relationships	Beta	S.D.	T Statistics	P Values	L.L.	U.L.
II -> CD	0.496	0.030	16.630	0.000	0.437	0.546
JR -> CD	0.134	0.028	4.859	0.000	0.083	0.185
SNW -> CD	0.223	0.030	7.360	0.000	0.171	0.280
TBA -> CD	0.175	0.024	7.187	0.000	0.124	0.213

Figure 3. *Structural assessment model*

Discussion

Informal apprenticeship in developing the competence of workers in construction service sector involves several parties such as foreman who is lined up as a supervisor, the chief builders as instructors, and construction internees as learners or internees. However, the existence of supervisors, instructors, and learners is different from their counterpart positions in formal education. This is because informal education takes place flexibly. For this reason of flexibility, learning for informal workers in construction service sector is not the same as learning in formal education. The workforce as learners has unconsciously gone through the learning process, but they actively develop their competence through observation and discussion with the chief builders and direct practice in the workplace. The learning process is also flexible because learning uses a model that focuses on student activity. During the learning process, there is also a process of monitoring and evaluating the foreman's work. it can be interpreted that learning for informal workers in the construction service sector depends on each worker as a student or apprentice. If there is no desire to learn and follow directions from the chief builders in the learning process, then the learning process for competency development will not produce results.

In addition to awareness, the activeness of the apprentice is also essential. If the internee is passive in learning, he or she will not get competency development, considering that this informal apprenticeship is learning by doing from each worker. On the other hand, the internee will also need a long time to master these competencies in this informal apprenticeship. The time required for this knowledge transfer process is flexible. The time required for this knowledge transfer process is also flexible; this depends on the motivation and hard work of the learners—also, the direction of the chief craftsman and the supervision of the foreman.

The study results indicated that informal internships have a positive association with competencies development. These results are in line with several previous studies such as Chu et al. (2019), which shows that under informal internship, the learners have the chance to learn about the requirements of a particular practice or a specific role to develop and polish learning and perform competencies like observation, shadowing, analysis, understanding, and physical skills to perform a particular task. These results are supported by the study of Eble-Hankins et al. (2021), which indicated that though students learned much from the regular course of study, they were unable to perform in the practical field unless they had prior practice and an informal internship in a useful way to get ready for practical life as it helped to develop work competencies to be fit in the practical life.

The study results also showed that team building activities in informal learning were in a positive association with competencies development. These results were supported by a previous study by Dickson (2019), which revealed that team building activities like effective communication, sharing, cooperation, and commitment toward other members would enhance the knowledge of students about construction work, help them learn the physical skills, develop the ability to solve the problems, and ability to design or build an appropriate safe building. These results are also supported by the past study of Kelly et al. (2017), which showed that during informal learning, teamwork activities shape the thinking, and physical capacities in such a way as the students can develop competencies

required for professional life like critical skills, analytical skills, decisions making and problem-solving skills, conflict resolution, accuracy, responsiveness, agility, and confidence.

The study results have also indicated that social networking, as a dimension of informal learning, has a positive association with competencies development. These results are in line with the past study of Jurkovič (2019), which showed that social networking provided students a broad context to enhance their learning about a particular subject matter. In social networking, using internet-based social media platforms, students can interact with other learners, seniors, or teachers, to expand their knowledge and ways to develop professional abilities related to the same subject. In this way, they can develop competencies impressed by others. The study results have indicated that informal learning practices and job rotation have a positive association with competencies development. These results are in line with the research findings of Song et al. (2017), which analyzed the role of job rotation in informal learning of students and the development of competencies. According to the views of Froehlich et al. (2019), when an informal learning pattern is designed as students are employed in practical work, they keep on rotating from one task of a particular nature to another task, to transit from one role to another. This broadened the students' learning and developed flexibility in their thinking and physical skills.

Conclusion, Implications and Limitations

The motive behind conducting the current study was to elaborate the role of informal learning in the form of an informal internship, team building activities, social networking, and job rotation in student competencies development. Data was collected for developing a relationship between informal learning through finding the nexus between the informal internship, team building activities, social networking, and job rotation and student competencies development in the education system of East Java. This empirical analysis showed a positive relationship among the constructs. The results indicated that informal internship was the part of a study to get a practical experience of professional life, and it developed competencies in the students to handle the actual issues. The results showed that one form of informal learning was the performance of teamwork activities, which was a great way to develop awareness concerning knowledge, self-efficacy, managing confronting situations, and skills to perform the job with accuracy and agility. Similarly, social networking developed learning and professional competencies in students, for it gave the students an opportunity to ponder on their existing competencies and remove weaknesses. The study results also highlighted that the performance of activities at different jobs could develop different competencies so the job rotation could provide flexibility in students.

The current study would be of a considerable importance in the theoretical world because of its contribution to literature on education. This study analyzed the role of informal learning in developing competencies in students. It examined the influence of informal internship, team building activities, social networking, and job rotation on student competencies development. Formal learning within the educational institution and its impact on students' development of competencies have been an interesting topic of research. Hence, the focus of the current study was on informal learning in developing

competencies and to examine how it made a remarkable contribution to literature. In the existing literature, several research studies have highlighted the relationship of informal internships with manufacturing or service industry. This is a great contribution of the study to relate the informal internship with the construction industry. This study is meaningful for policymakers regarding developing policies about student competencies development. This study has great empirical significance too. It is a guideline for the management of the educational institution or education ministry to promote education and make it useful for the economy by designing suitable education policies. This study guides that competency can be developed in the student by promoting informal learning like an informal internship, team building activities, social networking, and job rotation.

The study faced several limitations which future authors ought to remove with literary efficiency. For instance, this study analyzed only the role of informal learning such as informal internship, team building activities, social networking, and job rotation in students' competencies development. Education institutional policies, financial resources, innovative sources of learning, and attentions of the firm where students are appointed as interns are significant drivers of competencies development. Future researchers could analyze these factors. Secondly, the empirical analyses in the current study of informal internship, team building activities, social networking, and job rotation and competencies development was confined to a limited region of the world like East Java in Indonesia. This makes this study less generalized. Future studies ought to analyze the constructs in a larger region.

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