



PRIMARY RESEARCH

Determinants of project management methodologies and its effects on project success in Ghana—A conceptual paper

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Abstract

Project Management (PM) has become popular as an important management concept driving the economic development agenda of nations and corporate organizations using it to successfully drive their business objectives. As a result, it is quite worrying for a country like Ghana or an organization to adopt these important concepts in the Project Management Methodology (PMM) and still register a high level of project failure. This study aims to look at the factors of project management methodologies that are more likely to lead to project success in Ghana. The work is underpinned by the Capability Maturity Model and extant literature to know the factors of project management methodologies that are likely to lead to project success in Ghana. This conceptual framework requires future work that requires the collection of empirical data subjected to descriptive and inferential statistics through Structural Equation Modeling (SEM) to validate the model. The researchers thus proposed a model that can be used to assess the success of projects in Ghana with empirical data.

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INTRODUCTION

Maylor, Brady, Cooke-Davies, and Hodgson (2006) assert “projects have had significant growth from diverse sectors and industries of the world’s economy”. This is confirmed by Williams (2017) who noted that there is a “continuous increase in the number of development programs being undertaking through projects”. It is reported that projects across different parts of the globe do not reach its completion stage as they are usually abandoned and causing financial loss due to insufficient funds, inappropriate project management experts, and so on (Hussain, Mkpjojogu, & Mohmad Kamal, 2016; Radya & Budi, 2019). In this regards, extant literature shows that project management is a catalyst for development for most countries (Ernest, Divine, & Edward, 2015) and that many governments and organizations are adopting and implementing PMM's which is helping them achieve high project success rates (Balana et al., 2020). There are several project management methodologies and processes that have been developed and being used

by project management consultants who established associations like the International Project Management Association (IPMA) and the Project Management Institute (PMI) in other to see to the challenges and train professionals in the field of practice.

PM has become popular as an important management concept that is driving the economic development agenda of nations, especially developing countries and business organizations are also using it to drive their objectives (Barghoth, Salah, & Ismail, 2020). It is also noted that project implementation in Ghana was declining which caused a substantial loss to the country, and is a cause for worry and thereby needs to improve (Kafile & Fore, 2018; E. Oppong, 2019). Even though Ghana has a few Management Consultants and managers involved in diverse projects in various industries from both private and public sectors of Ghana’s economy, projects keep on failing and much is not seen as it is either delayed or uncomplete work which is worrying because proper project handling and successful execution is

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what drives a good economy (Niesing, Merwe, & Potgieter, 2016; Williams, 2017). A check on the PMI Ghana website (<http://pmi-ghana.org/>) as of June 2020 revealed that Ghana currently has 517 members with 12 of them being student members and 231 are members without certification.

Extant literature has revealed that Africa's cultural values and political conditions may affect the adoption and Implementations of PMMs (Muriithi & Crawford, 2003). For this reason, it has been evaluated and tested scientifically that the use of the western PM techniques will not enhance project success in Africa (Blunt & Jones, 1997). Hence the need to assess if these methodologies will lead to project success in Ghana.

The objectives of this study are:

1. To identify the PMMs used in Ghana by PM Consultants/Contractors
2. To determine the level of PMMs in Ghana
3. To investigate the effects of the PMM on project success in Ghana.

These translate into the following research questions

1. What are the PMMs used by Ghanaian PM Consultants/contractors?
2. What are the levels of PMMs in Ghanaian?
3. What are the effects PMMS on project success in Ghana?

This study has been necessitated by the lack of literature to theoretically evaluate the factors affecting PMMs and their effects on project success in Ghana. In practice, the study aims to explore the contextual factors that affect PMMs implementation in a developing country context. Also, the identification of the main factors to focus on when adopting PMMs will be revealed through the analysis and the findings of the study. The identified factors will be a guide for other organizations that are in the process of adopting and implementing PMMs in order not to waste resources. The results will also be used to create awareness for project consultants and contractors as to the best practices to follow when embarking on projects to achieve high project success rates.

LITERATURE REVIEW

The PMI defines PM as “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements”. Project Management Institute (2017), and Prince2 define a project as “a temporary organization that is created for delivering one or more business products according to an agreed Business Case” (Ghosh, Forrest, DiNetta, Wolfe, & Lambert, 2012). Also, according to Kerzner (2017), PM “is the planning, organizing, directing and controlling of company resources for a relatively short-

term objective that has been established to complete specific goals and objectives.” He continues to say that “project management utilizes the systems approach to management by having functional personnel (the vertical hierarchy) assigned to a specific project (the horizontal hierarchy)”. It is observed that all the definitions show projects are temporary (start and ends) and are established to accomplish a specific task (achieving something new). Thus, Organizational activities can either be a project or process. Therefore, organizations need to focus on when taking strategic decisions on projects because of their unique nature. The literature points out that achieving all project goals within given constraints is the major challenge of PM. These constraints can be scope, time, budget, quality, location of specialized inputs, meeting project objectives, and integrating them into corporate objectives in other to achieve goal-congruence, etc (Project Management Institute, 2017).

Capability Maturity Model

“A theory is a set of systematically interrelated concepts, definitions and propositions that are advanced to explain and predict phenomena (facts)” (Adams, Khan, Raeside, & White, 2007). Based on the above statement, and the fact that the study is quantitative research, it is important to base the work on solid theory and the factors would taking, studied, develop a hypothesis, have these hypotheses tested empirically through a survey method and the results communicated accordingly, hence, The Capability Maturity Model which is a “process and behavioral model that helps organizations to streamline process improvement and encourage productive, efficient behaviors that decrease risks in software, product, and service development in other to achieve organizational goals” (Iqbal, Khan, & Minhas, 2018). According to Backlund, Chron er, and Sundqvist (2014), most organizations make use of project management maturity models to improve their project management capabilities and thereby achieving project success. On the other hand, Zhong, Leung, Law, Wu, and Shao (2014) defined the Capability maturity model as the “model for judging the maturity of the processes of an organization and for identifying the key practices that are required to increase the maturity of these processes for a successful implementation of organizational objectives”. Generally, the Capability Maturity levels have 5 main five levels which are continuous improvements on each other. The five levels include “initial, repeatable/managed, defined, qualitatively managed, and optimizing”. Finally, Ika and Donnelly (2017) have assessed the model and attested to the fact that it is a very competitive one for setting project standards

in project management and a very competitive model for achieving project success.

To this regard, it is seen that many researchers have to use the CMM in their research work when writing in the field of project management and its relation to project success and this has yielded great results (Hu & Gao, 2019; Iqbal et al., 2018; Košťálová & Tetřevová, 2018; Nishant, Srivastava, & Bahli, 2020; Ofori & Deffor, 2013; Serrano & Pereira, 2020). It is based on this that CMM is choosing as the theory of this study. That is all the factors that would be studied in other to determine the factors that will lead to project success in Ghana will be based on the CMM.

RESEARCH METHODOLOGY

Conceptual Framework Development

The conceptual framework for the study was developed based on the Capability Maturity Model extant literature.

The framework depicts factors that may influence project success in Ghanaian organizations. According to Kumar, Manrai, and Manrai (2017), developing a conceptual framework will help the researcher to hypothesize and test certain relationships to improve the understanding of the situation. The conceptual framework consists of the independent, mediator, and dependent variables. The dependent variable in this study is project success whereas the independent variables are those variables that can be controlled to determine the success of projects in an organizational setting. Based on the reviewed theory, the independent variables of this study include training, organizational culture, change management, and communication management. Figure 1 and Table 1 summarizes the conceptual framework.

TABLE 1. Conceptual framework constructs

IVs	Mediating Variable	Dependent Variable
Training	PM	Project Success
Culture	Methodology	
Change		
Communication		

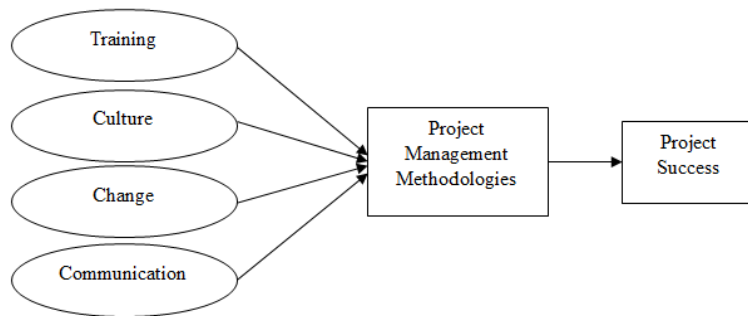


FIGURE 1. Conceptual framework

Factors which Influence the Success of PM

This section of the study presents the main factors affecting the success of project management in diverse organizational settings.

Training

Training is a planned effort put in place by organizations to ensure learning behaviors related to a job. Training and development investments are critical for the long-term success of the company and its employees (Aghion, Bergeaud, Blundell, & Griffith, 2019). Lewin and Teece (2019) pointed out for human resources development that “training programs can improve specific skills in fields such as strate-

gic management, financial management, business growth, and marketing”. Hanaysha and Tahir (2016) proposed that training improves the degree of expertise, professional success, and hence the efficiency of the company. Companies with a higher percentage of trained workers are those that undergo valuable training and practices in the management of human resources in other to facilitate and enhance the capabilities of employees for organizational development Guerrero, Leavengood, Gutiérrez-Pulido, Fuentes-Talavera, and Silva-Guzmán (2017). Santos, Barriga, Jugend, and Cauchick-Miguel (2019) pointed out that training and development can enhance the cooperation between cross-functional systems and there can even be positive over-

training which will enhance staff appraisal and also serve a source of motivation for staff. From the inception of project management to date, it has always been necessary for all levels of managers to undergo training to improve interpersonal and technological skills (Thompson & Cox, 2017). Dandage, Mantha, Rane, and Bhoola (2018) also confirmed that the absence of structured training preparation is one of the top critical challenges to the successful execution of project risk management.

Based on the above discussions, the researchers hypothesized that:

H1: Training has a direct relationship with the adoption of a project management framework and an indirect relationship with project success.

Organizational culture

Organizational culture consists of “symbols, language, ideology, beliefs, rituals, and myths of an organization. Culture is ubiquitous and covers all areas of organizational life” (J.-C. Lee, Shiue, & Chen, 2016). According to Driskill (2018), organizational culture can be described as a “collection of theories uniting the norms and principles, social beliefs, or convictions of organizational leaders”. This implies that organizational culture affects the behavior of workers and hierarchical management mechanisms. Organizational culture also directs how the personnel perceive, behave, and react to changing activities in response to reality and creativity. Breakey, Ransome, and Sampford (2019) argue that a “healthy culture, in which expectations and principles are established in the company and are closely upheld, increases the efficiency of the enterprise as workers strive to meet shared objectives”. According to Sorge and Streeck (2018), the benefits of a good organization implies stronger cooperation between the firm and member/employee priorities and greater contributions of staff, are the product of quality expectations and common principles. C. C. Lee, Strohl, Fortenberry, and Cho (2017) also found out in this respect that the activities in human resources have significant implications for the organizational outcomes in its attempts to encourage workers' participation. Culture is also known to promote innovation through the establishment of a creative organization and organizational atmosphere. Doppelt (2017) stated further that the development of creative corporate culture through instituting processes to promote the adoption of new concepts is very essential for the growth and success of organizational objectives. Gutierrez-Gutierrez, Barrales-Molina, and Kaynak (2018) confirmed that evolving corporate environments support new product creation ventures and thereby organizations

are being encouraged to make corporate social responsibility its corporate culture in order to enjoy organizational goodwill from stakeholders.

In their research, Colmenares-Quintero, Benavides-Castillo, Rojas, and Stansfield (2020) argued that ancestral traditions shape people's perceptions and beliefs which make up the relationship between the community and the corporate organization and also mark criteria for acceptance of organizational products and services thereby establishing a strong relationship and understanding between an organization and its stakeholders, they go ahead to establish that low levels of trust and credibility between stakeholders and the organization, brings confusion on organizational operations among others and then recommends that the community should be involved during all stages of organizational development. Liu, Meng, and Fellows (2015) in their study that aimed at exploring “how culture influences contractors' risk management on projects” noted that “Cultural influence is unavoidable in construction projects and a clear understanding of it is vital for successful project management practices to take off”. It was established in their findings that project risks are perceived and managed differently in different national cultures. and that contractors' knowledge of the host country's national culture influences their project risk management behaviors”. These arguments point out that the study of culture and influence in project management is very a vital factor that should be investigated and properly dealt with when it comes to adopting a project management framework.

In conclusion, Amponsah (2012) in his study identified the “general reasons why projects fail in Ghana and the effect of culture on project management in a multi-cultural society like Ghana” because “cultural differences play a leading role in the effective implementation and execution of projects”. It was disclosed in his findings that, “there is a link between project failure and culture” and it has become not just necessary but a critical area for project managers to consider cultural issues when adopting a new PMMS in order to gain a competitive advantage which goes a long way to ensure project success.

Based on the above discussions, the researchers hypothesized that:

H2: Culture has a direct relationship with the adoption of PMM and an indirect relationship with project success.

Change Management (CM)

CM is a collective term used in trying to modify an organization's staff, teams, stakeholder perception, process, etc. for a collective or organizational good (J. Kotter, 2007). In

the project-management context, the term “change management, is used as a substitute for change control processes to facilitate changes in the scope of a project which are introduced and approved” (Hornstein, 2015). Change Management can also be defined as a “planned objective to change a company’s direction from the current position to a desired future position in the business environment in response to new challenges and opportunities, this includes the projection of a new vision, together with wide consultation with employees at all levels to overcome resistance and gain the acceptance” (J. P. Kotter & Schlesinger, 1979). Mathar and Gaur (2020) see CM as the “process of successfully shifting an organization from one stable state to another leveraging tools, technology & people management in a way that doesn’t threaten the current organizational stability”. It is also essential that the requisite leadership skills, commitment at all levels, and both human and financial resources are available to implement the desired change.

The reasons why organizations would go for a change would include “industrial inventions, process reviews, organizational crisis, switch in consumer test and habit, pressure from new business entrants, organizational restructuring, etc.” (J. P. Kotter & Schlesinger, 1979), they continued to explain that change management “deals with many different disciplines, from behavioral and social sciences to information technology and business solutions”. Levin (2014) sees the purpose of all change management initiatives to be the “successfully implement strategies and methods for effecting change”. Organizations need to be extremely careful when executing a change process because issues about change can be determined by individuals at a time and not everyone at a goal, it has been proved that 62% of people will reject change due to fear of the unknown and the fact that they are used to their comfort zones and is only 38% of people who will gladly accept change with happiness and satisfaction (Ravinder, 2017) when an organization is going through a change process, it is important that employees are communicated to about all the zones that would be affected and this should be done in an appropriate way to avoid confusions resulting from communication gap and also, a continuous evaluation must be carried out in a proper documented (Levin, 2014). CM for any organization regardless of the size can be very challenging based on its understanding of what the change is and its effect on stakeholders.

Sokol, Schuman-Olivier, Batalden, Sullivan, and Shaughnessy (2020) assert a Change could be “strategic or tactical, big or small, major or minor, partially impacting or completely disrupting but it needs to be handled efficiently

and effectively to drive adoption, increase return on investment and decrease resistance” they continue by observing that CM can be the “process of successfully shifting an organization from one stable state to another, in a way that doesn’t threaten the current organizational stability” and also adds that most organizations “traditionally has a top-down approach where the push for adopting a change is driven and owned by management and brought down to employees”, and Mathar and Gaur (2020) suggests in their research study that 70% of CM “fail due to employee resistance and lack of management support”. They also advised that change management “should focus on handling process and people aspect both to ensure seamless change adoption in an organization”. However, it was noted that his organization was rather successful because of their capability and capacity to change, evolve and innovate (By, 2020) proper management of change can prepare an organization towards corporate excellence but at the same time lead the corporation to a crisis if it is not well managed, thereby managers are advised to manage change skillfully, efficiently, effectively and successfully in other to ensure project success.

In conclusion, many researchers in their study have used the change factor, (Petronio & Child, 2020) also developed a structure for the study of context-dependent challenges and systemic progress to improve business transformation. Its approach introduced methods such as environmental monitoring, SWOTs, and stakeholder research (strengths, shortcomings, incentives, and threats). Martens and Carvalho (2017) observed that companies must incorporate program management into project management in complex environments. Poor change management can trigger project failure, whereas good project change control is important for their success. To provide instruction in the management of operational improvements in the qualification phase for new project managers, Carvalho and Rabechini Jr (2017) have recommended applying project management practices to the certification process which is effective change management is positively associated with project success. Sokol et al. (2020) suggest that the Lewin 7S models of change can be a helpful guide to creating and maintaining a foundation of office-wide culture and structural support to support the change.

Based on the above discussions, the researchers hypothesized that:

H3: Organizational change has a direct relationship with the project management framework and an indirect relationship with project success.

Communication

Communications management is “systematic planning, implementing, monitoring, and evaluation of all channels of internal and external communication of an organization”, organizational communications are done through “corporate strategy development, designing directives for internal and external communications and managing the flow of information” (Andersson, 2019). Project communication management as explained in the PMBOK 5th edition asserts, “project managers should focus on ensuring that stakeholders are understood in terms of their communication needs”. Project managers take careful steps in outlining the communication plan which includes, delivery channels, persons responsible, etc. in order to eliminate the communication gap. This communications plan “is executed and monitored in the course of project implementation” it also includes “defining the audience, defining the requirements, preparing a communication list, finding a responsible team member for preparing and scheduling the piece of communication, defining the medium of communication, and finally preparing the content”. It also contains four topics which are the “Project management plan. Stakeholder register, Enterprise environmental factors and Organizational process assets”. In project management, communication management must address the following questions “What information needs to flow in and out of the project? Who needs what information? When is the information needed? What is the format of the information? Who will be responsible for transmitting and providing the information?” (Damoah & Akwei, 2017). All these processes are to ensure there is a free flow communication and that the intended information reaches the right user at the right time, through the right process, without any or minimal distortion and the right feedback is given with the intended purpose for administration and organizational objective to be met.

Managers must prepare not only formal communication structures for better organizational efficiency but also non-formal ones (Akinici & Sadler-Smith, 2019) because good communication facilitates operations, motivates, builds trust and ensures the participation of all the main stakeholders and promotes the possibility of projects achieving their objectives within the time and resources allotted to them (Banatwala, Brooks, Estrada, & Russo, 2019), meaning enhancing knowledge transfer in an organization is essential, as it will increase connectivity, accessibility and promote information transfer to address communication gaps and all other difficulties (Almeida, de Moraes, & Campos, 2019). Muszyńska and Marx (2019) said that “Project-based activities are common not only in businesses but also

in educational institutes whose scientific and international activities are done through projects and there is evidence that poor communication and documentation management leads to problems in project realization and that’s Communication management plays a significant role in realizing projects”. They continued to argue that “non-verbal communications foster misunderstanding, lack of mutual trust, and a decline in motivation”. They then concluded that communication issues of project management “is so difficult due to the fact that it involves dealing with human interactions and is closely related to trust, beliefs, also demands a high level of soft skills”. Andersson (2019) suggested a solution to the problem in his study when he wrote that “to overcome these challenges project managers should follow good communication management practices and patterns adapted to the characteristics of their projects and teams”. Trilles, Granell, Degbelo, and Bhattacharya (2020) raised concerns about articles that often use technical jargons, which prevents the public from using results for its intended purposes and suggests that it is necessary to have new ways to communicate scientific results and to transfer scientific insights to non-experts, this can be done by setting an interactive guideline for the industry. In conclusion, Kjellström, Törnblom, and Stålné (2020) noted that “there is a need to enhance communication and dialogue on different leader and leadership development methods” with good communication practices at the organizational level in order to see a successful adoption of the project management framework. Finally, Martin, Kolomitro, and Lam (2014) conclude that there is a lack of awareness about the usage of available communication methods and that organizations should ensure the availability of information to everyone through training but was quick to add that managers must also set privacy boundaries to keep vital and sensitive issues.

Based on the above discussions, the researchers hypothesized that:

H4: Communication has a direct relationship with PMM and an indirect relationship with project success.

Review of Empirical Findings on Project Success and Project Benefits

The primary goal of project management is to maximize organizational efficiency by utilizing a project management system (Kerzner, 2017). This section reviews relevant empirical findings by other researchers related to the study. Mittal, Khan, Romero, and Wuest (2018) mentioned that the short-term performance and the profitability of the project are determined by the progress in producing medium- and

long-term objectives. The project benefit should then be interpreted to satisfy consumer expectations, match project performance to the plan of the enterprise, and return on investment (Langenwalter, 2019). The capacity of the project to achieve the anticipated return on investment is, however, key to the declaration of project progress from the market point of view (Ul Musawir, Serra, Zwikael, & Ali, 2017). Plan investment performance is also used to define the project's potential to produce investment returns (Martens & Carvalho, 2017). Indeed, successful investment projects are more challenging than successful project management. Succeeding investment projects requires system thinking so that the internal and external environment can be understood and managed (Badewi, 2016). For example, in Hu and Judge (2017), associated success factors such as coordination, teamwork, and leadership are more crucial than task-driven success factors. Mabelo (2020) also shows that more seasoned project managers are more involved in operating together and are more orientated towards investment performance. Accordingly, Badewi (2016) found that the PM tools used to achieve success in project management differ from those used for project investment success because they are more closely associated with stakeholder administration such as a stakeholder matrix and a matrix of responsibility. Moreover, the benefits of the projects and the success of the project investments vary slightly: Project investment success is more inclusive and involves the cost and financial benefits of the project. In other terms, once the anticipated financial and nonfinancial gains have been obtained, stakeholders are not happy. Non-financial advantages cannot readily be observed in the investment performance of a project through articulation, quantification, and evaluation of how financial advantages would impact them (Badewi, 2016). It is important to measure the benefits to track, control, and monitor their realization (Bradley, 2016). To sum up, project success classification is applied in terms of project results, operational gains, effects, stakeholder satisfaction, and prospects in terms of project effectiveness (G. D. Oppong, Chan, & Dansoh, 2017). Another approach is to define project performance under operation, product progress, and operational success (Wang, Liu, & Canel, 2018).

In Ghana Frimpong and Oluwoye (2018) observed that the implementation of good project management practice effectively is a way of improving future projects especially in groundwater construction projects. Frimpong and their primary goal were to investigate and examine how project Management practices in groundwater construction projects in Ghana and it was found that most of the

projects did not have project management processes and procedures.

Also, Kwofie, Botchway, and Amos-Abanyie (2018) mentioned that the performance level of key PM competencies of the various project teams are perceived as a recourse necessary for identifying potentially crucial and practical training needs of project team participants in PM practice, they also assessed the performance level of the critical PM competencies of the architect as a key team participant in project delivery and the findings revealed that architects show worse performance on seven critical competencies. Finally, Annor-Asubonteng, Tengan, Asigri, et al. (2018) investigated on cost management practices of indigenous firms in the Ghanaian construction industry and recommended that indigenous firms are encouraged therefore to consider managing disagreements between project team members by ensuring constant project implementation meetings and to understand ground conditions of projects by visiting proposed sites before estimation and tendering. Finally, communication and expenditure control measures should be enhanced and introduced, respectively. Additional, empirical evidence has shown that Ghana needs to ensure that it achieves project success in is project delivery as the rate of project failure is on the rise Damoah and Akwei (2017) used Six factors to assess Ghanaian Government project failure and found out that Ghana "Government projects fail on all the six failure criteria which have become a worrying national concern". For this and other reasons mentioned earlier, it would be highly important to test if the adoption of a project management framework would lead to project success. This led us to the fifth hypothesis.

Based on the above discussions, the researchers hypothesized that:

H5: The adoption of project management methodologies would lead to project success in Ghana.

CONCLUSION AND IMPLICATIONS

In conclusion, this study seeks to determine factors of project management methodologies that are more likely to lead to project success in Ghana. Underpinned by the Capabilities Maturity Model, the study identified four factors as Training, Culture, Change, and Communication which can lead to the adoption of PMM which can also lead to Project Success.

This conceptual framework requires future work which requires the collection of empirical data that will be subjected to both descriptive and inferential statistics through Structural Equation Modeling (SEM) to validate the model.

It has been established from the literature that all the vari-

ables used in the study are very necessary to look at. This, the researchers encourage contractors, project managers, project management teams, all stakeholders, etc. to be vigilant and get involved throughout the project management process. When adopting a new methodology, project man-

agers should undertake proper planning process, and management should invest in people, do a proper feasibility study, stakeholder consultations in other to achieve project success.

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