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FROM PLANNING TO PERFORMANCE: ASSESSING THE ROLE OF MILESTONE SCHEDULING IN GARMENT ENTERPRISES IN ELDORET TOWN, KENYA

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Abstract:
The performance of garment enterprise projects is a critical indicator of the economic progress and sustainability of any country. With respect to small garment enterprises in Eldoret town, data has shown suboptimal performance in the industry, resulting in some SMEs ceasing their operations. The aim of this paper is to assess the effect of scheduling milestones on the performance of small-scale garment enterprise projects in Eldoret town. The study was anchored on the Goal Setting Theory. An explanatory research design was used, and the target population consisted of 386 small-scale garment enterprise owners. A sample size of 196 small-scale garment enterprise projects in Eldoret town was selected. The respondents were selected using a stratified sampling method, and data was collected using questionnaires. The analysis was done using both descriptive and inferential statistics. With respect to findings, mapping risks was found to have a significant positive effect on the performance of garment enterprise projects (β 0.968, $p<0.05$). Milestone scheduling has a significant positive impact on the performance of garment enterprises in Eldoret town. The study recommends that small-scale garment enterprise projects prioritize the efficient use of their available resources and develop detailed production schedules.

Keywords: scheduling, milestone, garment, planning, performance

1. Introduction

Milestone scheduling is key to the achievement of the predetermined plans in any project (Winch and Kelsey, 2021). A milestone schedule is a strategic plan above all other schedules, which defines intermediate products to be achieved. It specifies the logical

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sequence of states the project must pass through, indicating how to coordinate efforts and how to note the progress points, but not how it is to be achieved. The entire project scope is defined at this scheduling level (Turner, 2022). The project schedule provides the basis for measuring progress, the basis for regular review and an updating of the plan" (Baldwin & Bordoli, 2018). From a project management perspective, project planning and scheduling involve interrelated inputs and detailed deliverables that are to be implemented according to their assigned objectives. These objectives should be effectively defined, and project schedules can be presented and communicated in many ways, including simple activity lists, bar charts with dates, and network logic diagrams. When projects become larger, it is difficult to present all tasks and information on one chart. Schedules can be divided into smaller entities, also called hierarchies of charts.

AlNasseri (2015) also stated that milestone scheduling must be established on a hierarchical basis, and a schedule at a particular level of detail must be expanded to more detail when the execution of the work comes closer. Traceability between different schedule hierarchy levels is important to maintain consistency throughout the scheduling process. Winch and Kelsey (2015) have described that high-level planning has to incorporate many lower-level plans and subcontractors' plans. Lower-level plans often confirm the robustness of the higher-level plans. The master schedule is usually below the milestone schedules, which outline the main work packages and represent the major milestones. A master schedule is a type of project schedule that indicates the major project tasks without too much detail. Usually, it is used by the top project management to review and plan the entire project. It is prepared during the project development phase, and after that, it is periodically updated during project implementation. The project manager and the project team formulate the master schedule in a top-down fashion. Next in the hierarchy are scheduled at an intermediate level, where master-level tasks are presented in more detail, with sub-tasks. Usually, this level of schedule allows project and line managers to do resource planning.

At the bottom level, the scheduled tasks are derived from tasks of intermediate-level schedules. Site personnel, supervisors, and technical specialists utilize these schedules to plan and control activities on a daily or weekly basis. Task schedules are more detailed and contain activities at the work package level. Lower-level managers and supervisors can focus on detailed tasks of their discipline without being interfered with by other areas they are not interacting with. Task schedules are prepared by line managers and include higher-level milestones and tasks from master schedules broken down into detailed ones. The master schedule is upgraded with necessary details gained from task schedules and trolled early in planning and during execution for successful project performance. Scheduling milestones' is used in practice in a variety of ways. Sometimes, it means that the scheduling process has to result in a cheap schedule, a flexible schedule, an adaptable schedule, or a rapidly delivered schedule. In other situations, high scheduling performance means that schedulers are efficient negotiators, rapid adapters, and smart problem solvers and that the scheduling process is organized efficiently.

2. Literature Review

In recent times, there has been an enormous increase in the study of the performance of enterprise projects has been witnessed (Evans, 2018; Lehtinen, 2022). Whereas the majority of the research focuses on performance measurement at the firm level, several researchers have investigated departmental and business functions and specific performance measurement, proposing a variety of metrics for sales, marketing, new product development, manufacturing, and distribution (Lohman, *et al.*, 2018, Neely, 2022). Interestingly, the scheduling of milestones has a large effect on small-scale garment business performance, such as the efficiency and flexibility of a firm, by determining its order lead times, delivery flexibility, machine and material usage, and staff workload (Leung, *et al.*, 2019; Sadeh, 2020). However, performance in terms of scheduling milestones has received far less attention than other business functions (De Toni & Tonchia, 2021). Milestones serve as pivotal checkpoints, allowing enterprises to evaluate progress and make timely adjustments (Kerzner, 2023).

It is necessary to establish a classification framework for scheduling performance milestones, extending existing scheduling milestones and providing a first step toward distinguishing the types of scheduling performance criteria used in practice (Soderlund, 2020); further, an important outcome of the study to the question posed in performance measurement literature as to whether measures should focus on processes (i.e., the actual actions), on the output of processes, or both (Neely, 2019). Small-scale garment enterprises can optimize resource utilization, improve operational efficiency, and sustain competitive advantage in dynamic markets through the effective scheduling of milestones (Shenhar *et al.*, 2020).

In the manufacturing company, delivery dates drive the production schedule, but they remain unchanged. Solis *et al.* (2015) stated that scheduling milestones ensures that projects are completed on time, which would prevent the projects from being considered as delayed work. This would provide a better consumer experience and raise the effectiveness of the outcome. Thus, schedule management is an important part of the project planning procedure, and for the maintenance of the final quality of the product, risk mapping, consumer satisfaction, and objective attainment, organizations must ensure the effective implementation of a schedule management plan in the project management process (Siriram, 2018). Effective scheduling of milestones ensures projects remain focused and adaptable to changing circumstances, which is pivotal for small-scale garment enterprises operating in dynamic environments (Turner, 2022).

According to Morris, Pinto, and Soderlund (2020), the production schedule depends on the delivery dates, as the project managers must adhere to the deadlines fixed for the completion of projects. Therefore, a production schedule must be prepared to guarantee well-timed delivery to the consumers. Kerzner (2023), effective scheduling of milestones not only ensures project success but also strengthens organizational resilience and adaptability in dynamic business environments. According to Fekete (2012), the goal of the study was to determine the amount of time lost on projects and the reasons for it.

His research also revealed that the amount of time and money lost is significant, with various important factors at play. Inadequate fund flow, poor budget allocation, improper schedule management planning, changing scope of work, and pricing variations are some of the causes. In addition, many organizations are perpetually in firefighting mode, where short-term results frequently trump long-term plans and strategies. While this can make realizing the benefits of good project management practice more complex, there are techniques to accommodate a high-drama culture throughout the project life cycle (Wrona, 2016).

Schedule pressure results from a schedule-driven enterprise management policy to finish activities deemed business-critical on the anticipated completion date, even if they started late and there is no free resource capacity, rather than a result of emergent late problems owing to poor front-loading. Late starts are attributed to a conflict between project and senior management, a common problem in multi-project organizations (Soederlund, 2022). In other circumstances, the production personnel are forced into firefighting mode due to a lack of raw materials for styles that are planned to run on specific days. A properly designed enterprise schedule management acts as a map or a guideline for a project. It also helps develop an organizational structure guided by a well-thought-out process. It helps reduce time-related costs, smoothen change management, build coordination and control, and enhance resource and budget control, documentation, and accurate projections and predictions (Carson, 2020). The availability of raw materials and human resources affects the scheduling of milestones. It has been found that appointing untrained or inexperienced staff results in the business organization's inability to execute its project successfully. Through the effective allocation of equipment, resources, workforce, materials, and production plan, scheduling enables the preparation of tasks as per the sequence of events (Ronald, 2021). Hildreth and Munoz (2019) define the scheduling process as a part of planning wherein the timing of activities is determined in the planning process, and accordingly, the schedule for the project is decided.

The schedules must create provisions to adapt these adjustments into their plan to ensure smooth execution. In addition, having a consistent supply of supplies allows the organization to operate on a regular schedule. On the other hand, if the supply of materials is not standard, the schedule must be adjusted accordingly to avoid delays. Complex projects involve a large number of activities at different departments and sub-organizations spread at multiple geographical locations with specified targets and duties. A slight delay in any critical activity will not only affect the delivery time of the project but also hamper the relationship between the organization and its customers, affecting the goodwill of the company (Sharanyasreenivas, 2017). To avoid these situations, organizations need to plan the work of projects effectively through scheduling and planning. In this regard, schedule management planning is an important tool. This study sought to bridge the gap by determining the effect of scheduling milestones on the performance of small-scale garment enterprise projects in Eldoret Town, Uasin Gishu County, Kenya.

3. Materials and Methods

This study adopted an explanatory research design. Explanatory research design focuses on explaining why and how there is a relationship between two aspects of a situation or phenomenon (Freedman, 2009). The study area was Eldoret Town, Uasin Gishu County. The small-scale garment enterprise projects are spread throughout the 9 estates selected in Eldoret Town. This study's target population consisted of the top 386 small-scale garment enterprise owners operating in Eldoret town. The study selected 196 small-scale garment enterprise projects registered by the county government of Uasin Gishu as of January 2024 and was calculated based on Yamane's (1973) formula at a 95% confidence level (0.05 level of significance). A stratified sampling method was used to select the study respondents. Since there were distinct subgroups within the small-scale garment enterprise projects, such as different types of enterprises (e.g., tailoring shops, boutiques, and custom clothing businesses), stratified sampling was useful. The questionnaire was used as an instrument of data collection. Analysis of data was performed using both descriptive statistics (frequencies, percentages, means, Kurtosis, skewness, and standard deviations) and inferential statistics (Karl Pearson{Correlation}, assumption of regression tests and regression) analysis. A Karl Pearson correlation analysis was conducted to determine the direction and strength of the relationship between the independent and dependent variables.

4. Results and Discussions

Table 1: Descriptive statistics of scheduling milestones on the performance of small-scale garment enterprise projects

	Scheduling milestones strategies	**Mean**	**Std. Deviation**
1	A clear and detailed schedule for each project	3.73	0.73
2	Employees understand their responsibilities within the project schedule	3.89	0.847
3	Milestones help track the progress of projects effectively	3.75	0.807
4	Milestones are used to identify and address potential issues early in the project	3.92	0.859
5	Clear milestones enhance the ability to meet project deadlines	3.96	0.861
6	Proper scheduling and milestones have increased employee productivity	4.10	0.999
7	Employees are aware of the milestones they need to achieve	3.97	1.057
	Valid N (list wise)	**3.90**	**0.880**

The mean value of 3.73 suggests a moderately positive perception regarding the clarity and detail of project schedules among respondents from small-scale garment enterprise projects. This indicates a recognition of the importance of well-structured schedules in managing tasks and resources effectively. As Belout and Gauvreau (2021) emphasize, a clear project schedule is essential for reducing ambiguity and enhancing coordination. The standard deviation of 0.732 reflects moderate variability in responses, implying some

dispersion around the mean value. This implies that while schedule clarity is generally acknowledged, there may be differing interpretations or experiences among stakeholders. The respondents have a consensus that supports the notion that well-defined schedules are valued for operational efficiency. This stability in perceptions can support consistent project planning and execution, which is crucial for meeting deadlines and optimizing resource utilization in small-scale garment enterprise projects.

With a mean value of 3.89, there is a positive perception that employees understand their responsibilities within project schedules in small-scale garment enterprises. This underscores a good level of role clarity and accountability among employees. According to Pinto and Slevin (2022), clarity in roles and responsibilities enhances team performance and project outcomes. The standard deviation of 0.847 suggests moderate variability in perceptions, indicating that while role clarity is generally acknowledged, there may be variations in how responsibilities are perceived or communicated within the organization. This alignment is crucial for ensuring smooth workflow and task completion. The perceptions support consistent role comprehension and effective team collaboration within small-scale garment enterprise projects.

The mean value of 3.75 indicates a moderate perception that milestones are effective in tracking project progress within small-scale garment enterprise projects. Milestones serve as critical checkpoints for monitoring project advancement and aligning efforts toward overarching goals. As Turner (2022) argues, effective milestone tracking enables timely adjustments and ensures project milestones align with strategic objectives. The standard deviation of 0.807 suggests moderate variability in perceptions, implying varying levels of agreement on milestone efficacy across different projects or teams. With a mean value of 3.92, there is a positive perception that milestones are instrumental in early issue identification and resolution within small-scale garment enterprise projects. This underscores their role in proactive problem-solving and risk management. Turner (2022) emphasizes that leveraging milestones for issue detection enhances project resilience and minimizes the impact of unforeseen challenges. The standard deviation of 0.859 suggests moderate variability in perceptions, indicating some diversity in how effectively milestones are utilized for issue management. This alignment is crucial for maintaining project momentum and ensuring timely delivery. There is agreement on milestone utility without extreme opinions, fostering effective project execution in small-scale garment enterprise projects.

With a mean value of 3.96, there is a strong belief that clear milestones contribute significantly to meeting project deadlines in small-scale garment enterprise projects. Well-defined milestones provide measurable targets and facilitate progress tracking throughout project lifecycles. Meredith *et al.* (2021) highlight that well-defined milestones improve schedule adherence and facilitate timely project deliveries. The standard deviation of 0.861 suggests moderate variability in perceptions, indicating varying levels of agreement on the extent of milestone impact on deadlines.

With a mean value of 4.10, there is a strong perception that proper scheduling and milestones positively impact employee productivity in small-scale garment enterprise projects. Structured planning and milestone management enhance task clarity, minimize disruptions, and optimize resource allocation. Gorod *et al.* (2018) argue that systematic project planning correlates with improved team performance and productivity outcomes. The standard deviation of 0.999 suggests moderate variability, indicating diverse perceptions of the extent of productivity gains attributed to scheduling and milestones.

With a mean value of 3.97, there is a positive perception that employees are aware of the milestones they need to achieve within small-scale garment enterprise projects. Clear communication and alignment on project goals and expectations are crucial for driving individual and team performance. Cleland and Ireland (2022) emphasize that effective milestone communication enhances goal clarity and fosters a shared commitment among team members. The standard deviation of 1.057 suggests moderate variability in perceptions, implying varying degrees of clarity in milestone communication and understanding.

The statistics show that most respondents agreed (mean=3.90, standard deviation=0.880) that scheduling milestones as an implementation strategy is done by small-scale garment enterprise projects. Generally, the statistics reveal that respondents generally agree that risk mapping is well-implemented in small-scale garment enterprise projects, covering essential aspects such as formal processes, comprehensive scope, clear responsibilities, regular field observations, and the use of structured methods. The positive impacts on operational efficiency and customer satisfaction are also highlighted. The skewness values, mostly negative, indicate a trend towards positive ratings, while the kurtosis values provide insights into the distribution characteristics of the responses, showing either strong consensus or more spread-out opinions.

A Karl Pearson correlation analysis was conducted to determine the direction and strength of the relationship between milestone scheduling and the performance of garment enterprises.

Table 2: Correlations between milestone scheduling and performance of garment enterprises

		Milestone Scheduling	Performance of Garment Enterprises
Milestone Scheduling	Pearson correlation	1	0.968**
	Sig. (2 – tailed)		0.001
	N		171
Performance of Garment Enterprises	Pearson correlation	0.968**	1
	Sig. (2 – tailed)	0.001	
	N	171	

**. Correlation is significant at the 0.01 level (2 – tailed).

Scheduling milestone shows strong correlations with the performance of garment enterprise projects (r=0.968, p=0.001). This demonstrates that setting clear milestones helps coordinate various project activities and track progress effectively. Kerzner (2023) notes that milestones serve as critical checkpoints that allow project managers to assess

progress and make timely adjustments. In small-scale garment enterprise projects, timely and clear milestones ensure that projects stay on track and resources are used efficiently. The strong correlation with performance underscores the importance of milestone scheduling in achieving project success.

5. Conclusions and Recommendations

The paper concludes that proper scheduling of milestones ensures projects stay on course, resources are utilized efficiently, and operational efficiency is maintained. This strategic approach leads to improved customer satisfaction and overall enterprise performance by keeping operations aligned with goals. In recommendations, optimizing the scheduling of milestones is another critical area. Developing detailed project plans with clearly defined milestones allows for progress monitoring and timely adjustments. Establishing regular checkpoints to review progress and make necessary adjustments helps keep projects on track and ensures efficient resource utilization. Utilizing project management software can facilitate the scheduling and tracking of milestones, improving overall efficiency and coordination.

Conflict of Interest Statement
The authors declare no conflicts of interest.

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