

QUALITY MANAGEMENT PLAN

PURPOSE

The purpose of the Quality Management Plan is to provide the strategy and procedures to ensure a quality conference is delivered that conforms to the expectations of our Sponsors and meets the needs of our customers at the end of the project. This plan establishes the project's quality standards, and will be used to help assess, measure, monitor, and continually improve the quality of the Helping STEM Students Excel, Inc. (HSSE) Professional Development Conference project.

STANDARDS

The HSSE, Inc. Professional Development Conference project will be managed following Project Management Professional guidelines and best practices to maintain high quality standards through the seven phases of the project. The project manager of HSSE is expected to operate ethically and comply with all HSSE, Inc. policies. The quality standards of this project are based on both the requirements of HSSE, Inc. and generating a high level of engagement from both speaker and student attendees. Specifics on the project's quality metrics and their standards can be found in Appendix A of the Quality Management Plan.

OBJECTIVES

The objective of the quality management plan is to aid the project team deliver a high quality conference by providing the tools, processes, and control methods described herein. The plan will outline quality assurance (QA) and quality control (QC) activities and responsibilities.

QUALITY TEAM ROLES AND RESPONSIBILITIES

Role	Responsibilities
HSSE Executive Sponsor	<ul style="list-style-type: none">Assures Sponsors of HSSE quality performanceProvides feedback on the quality management plan and quality performanceProvides arbitration between stakeholders
Project Manager	<ul style="list-style-type: none">Tracking, assessing, and ensuring all deliverables are in alignment with customer and sponsor quality

	<p>expectations</p> <ul style="list-style-type: none"> ● Inspect and comment on all draft and final project document deliverables for traceability, accuracy, and adherence to the project requirements ● Confirm sign-off from all necessary stakeholders for completed deliverables ● Ensure all project team members understand and comply with the project's quality standards and processes ● Maintain auditing documentation and ensure audits are being conducted as scheduled. Conducting Level 3 QC audits monthly
Marketing Manager	<ul style="list-style-type: none"> ● Supervising QA/QC processes for marketing team work packages and web development. ● Conducting Level 2 QC audits as scheduled
Business Advisor	<ul style="list-style-type: none"> ● Recommends opportunities to optimize schedule and cost outcomes ● Tracking and reporting CPI and SPI progress ● Advise the team on quality procedures and mandatory regulations. ● Conducting Level 2 QC audits as scheduled
Conference Coordinator	<ul style="list-style-type: none"> ● Provides QA/QC on customer satisfaction ● Conference scheduling and scheduling conflict management ● Conducting Level 2 QC audits as scheduled
Team Member Lead	<ul style="list-style-type: none"> ● Implementing QA/QC processes and procedures outlined in the QM plan among team members ● Provide verification and validation of all project deliverables to be completed by the team. ● Conduct Level 3 QC audits as scheduled

PROJECT DELIVERABLES AND PROCESSES SUBJECT TO QUALITY REVIEW

- Project Monthly Status Report
- Budget and Cost Reports
- Venue and Speaker Procurement
- Speaker and Corporate sponsorship value propositions
- Scheduling Progress Report
- Marketing plans and materials
- Website design and development
- Attendee enrollment and ticketing process
- Venue set up, conference events, and survey dissemination
- Project Final Report

PLANNED QUALITY ASSURANCE AND MANAGEMENT ACTIVITIES

Quality Assurance for this project will focus on providing value for student and speaker attendees of the conference, as well as meeting the expectations and goals established by HSSE, Inc. and the project's key stakeholders. Quality assurance for this project is based on the following:

- Understanding the goals of speakers and students attending the event. In order to ensure that the conference delivers a high quality experience for the project's target audiences, ideal customer avatars will be created for each audience type the conference is trying to attract (conference speakers, career fair businesses, students mainly focused on networking, students most interested in speaker and workshop content). Creating these customer avatars will help guide the team in how to deliver the most value to those customers. All work package outputs will focus on delivering value based on the needs of our ideal customers.
- All progress on work packages will be recorded in controlled documents in the Professional Development Conference project folder in the HSSE, Inc. Salesforce site. Progress on each work package (expressed as a percentage) will be updated in the project's MS Project Gantt Chart at the end of each week. Completed and in progress work packages and their related documentation will be regularly audited as part of the project's planned quality control activities described in a later section of this document.
- Leveraging existing HSSE, Inc. processes, procedures, and policies for relevant project activities. These can include, but are not limited to, the receipt and payment of invoices, standards and criteria for evaluating and selecting vendors, and document control.

All members of the project team are responsible for implementing quality assurance in all of the work performed as part of this project, regardless of role or level of seniority. All team members are strongly encouraged to recommend process improvement opportunities via email to the project manager, or during project meetings. Improvement projects will be scheduled based on expected impact to the project and level of difficulty/time to implement.

PLANNED QUALITY CONTROL AND MANAGEMENT ACTIVITIES

Quality Control will be conducted through layered (Kamishibai) audits by all members of the project team to encourage and reinforce ownership of quality assurance and control at all levels of the project team. The results of the Level 1 and Level 2 audits will be reported out during scheduled recurring team meetings as a permanent part of the agenda. Level 3 audit results will be reviewed with the project team in the next recurring project meeting after the audit, and with key stakeholders during scheduled stakeholder project review meetings.

- Weekly Audits (Level 1): Conducted by alternating members of the project team (not specifically listed by role under Roles and Responsibilities section). This audit encompasses all work packages in progress or completed during the week, looking for quality issues.
- Bi-weekly Audits (Level 2): Conducted by project team members listed in the Roles and Responsibilities section (excluding Project Manager and Level 1 auditors). This audit will encompass all work packages in progress or completed during the prior two weeks (or since the last Level 2 audit), looking for quality issues and ensuring closed quality task resolutions meet project quality standards.
- Monthly Audits (Level 3): Conducted by the Project Manager. This audit will encompass all work packages in progress or completed during the prior month (or since the prior Level 3 audit), looking for quality issues and ensuring closed quality task resolutions meet project quality standards and requirements.

All quality tasks identified as part of these audits (at any level) will be documented in the audit form, and by creating a new quality task in the related Salesforce work package case. The quality task should hold specific details about the defect, and assign an owner for resolving the issue. If it is unclear who should be assigned as owner for the defect's resolution, please escalate to the project manager for assignment.

Proposed changes to project or task resource allocations or schedule must be submitted via a change request to the Project Manager (or executive sponsor if necessary) for approval. If approved, the change request will be converted to a change order and the Project Manager will make relevant adjustments to the Cost Management Plan, Schedule Management Plan, and/or Risk Management plan as needed.

QUALITY TOOLS AND INTERFACES

Tool	Related Metric
MS Project	CPI, SPI
Salesforce Cases Quality function	Defect rates
Survey Monkey	Customer Satisfaction Scores

QUALITY MANAGEMENT REVIEW

The Quality Management Review will be used to assess the progress and continued improvement of the Quality Management System (QMS). In addition it will determine the adequacy, purpose suitability, and effectiveness of the QMS using prior Quality Management Review, Metrics Measurement and Data Collection, Process Audit results, Corrective Action information, and Lessons Learned.

Key Stakeholders will meet at project end to evaluate the performance of the system against the HSSE, Inc. goals and objectives and decide on a plan for any further needs to improve the system. Additional Quality Management Review Meeting may occur to implement new or changed procedures due to new requirements or poor customer satisfaction in HSSE performance.

The Review of the Quality Management System (QMS) will:

1. **Assessment of Quality Management System Performance:** QM Progress, Policy, Objectives and Targets
2. **Review Inputs:** Results from Audits (internal and external), communications from Stakeholders, Summary of Process performance, Preventive and corrective action, Follow-up actions from previous management reviews, Personnel Issues, changes in staff, training needs, changes or events that could affect the management system, recommendations for improvement.
3. **Review Outputs:** Continuous Improvement Issues, Changes in Resources and New Quality Management System Objectives for the coming year.

QUALITY METRICS

The QA/QC team will use appropriate methods for monitoring and, where applicable, measurement of the quality management system processes. These methods will demonstrate HSSE's ability to achieve planned results. If planned results are not achieved, correction and corrective action will be recommended, as appropriate. Metrics to be collected include:

1. Cost Performance Index (CPI): Cost efficiency of the budgeted resources or the Cost Performance Index (CPI) will be tracked utilizing Microsoft Project. A CPI value of less than 1.0 will indicate a cost overrun for work completed. A CPI value greater than 1.0 will indicate an underrun of performance to date. This metric will allow for reduced financial risk and capital costs, while distributing capital confidently.
2. Schedule Performance Index (SPI): The measure of schedule efficiency or Schedule performance index (SPI) will be tracked utilizing Microsoft Project. This will determine how close the project is to being completed compared to the schedule. If the ratio has a value higher than 1 this indicates the project is progressing well against the schedule. If the SPI is 1, then the project is progressing exactly as planned. If the SPI is less than 1 then the project is running behind schedule.
3. Defects Rate: The defects rate will be tracked using the Quality function in each project work package case. Defects are identified as part of the layered audit process outlined in the Planned Quality Control and Management Activities section of the Quality Management Plan.
4. Turnout at Conference: The Conference turnout metric will be calculated by comparing the number of tickets scanned during the four days of the conference and comparing them to the number of tickets sold as logged from the enrollment ticketing platform
5. Customer Satisfaction Scores: The average customer satisfaction score will be measured using the results of the customer satisfaction survey results from Survey Monkey

METRICS MEASUREMENT AND DATA COLLECTION

Metric	Standard	Tools for Data Collection	Frequency	Owner	Report
CPI	CPI \geq 1.0	MS Project	Weekly	Business Advisor	Budget Report and Project Monthly Status Report
SPI	SPI \geq 1.0	MS Project	Weekly	Business Advisor	Scheduling Progress Report
Defects Rate	Rate of 0	Salesforce Quality Report (from Cases Quality Function)	Monthly (Level 3), Bi-weekly (Level 2), and Weekly (Level 1)	Marketing Manager, Project Manager	Project Monthly Status Report
Turnout at Conference	Greater than 60% of tickets issued scanned at event	Conference Enrollment	Post event	Conference Coordinator	Project Final Report
Customer Satisfaction Scores	Average Score $>$ 4.0	Customer Satisfaction Questionnaire via Survey Monkey	Post event	Conference Coordinator	Project Final Report