NELSON MANDELA UNIVERSITY

Master Builders and Allied Trades Association Western Cape
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FEEDBACK REPORT EMANATING FROM A STUDY 'HEALTH AND SAFETY (H&S) DOCUMENTATION IN CONSTRUCTION'

AUTHORS : **PROFESSOR JJ SMALLWOOD**
DEPARTMENT OF CONSTRUCTION MANAGEMENT
NELSON MANDELA UNIVERSITY
john.smallwood@mandela.ac.za

DEON BESTER
MASTER BUILDERS ASSOCIATION WESTERN CAPE
deon@mbawc.org.za

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DEDICATION

The 'report' is dedicated to the improvement of health and safety (H&S) performance in South African construction, and more specifically, reducing the 'perceived' bureaucracy based upon observations, and anecdotal evidence.

ACKNOWLEDGEMENTS

A research report, regardless of magnitude, requires acknowledgements and thanks to:

- The respondents for participating and responding, and
- Robert Yuill for capturing and analysing the data and tabling the statistics.

ORIGIN OF THE REPORT

The continuing citing of bureaucracy and the 'amount of paperwork' relative to H&S in South African construction underscores the relevance and importance of the study reported on.

SCOPE OF THE REPORT

This report has been compiled to provide feedback to the respondents, and guidance to all construction industry stakeholders, based upon an empirical study. The report does not include a review of the related literature.

EXECUTIVE SUMMARY

In addition to a range of H&S documentation, a range of actions, beliefs, interventions, practices, and states are important in terms of achieving optimum construction H&S.

Conclusions include that H&S documentation facilitates and assists planning, organising, leading, controlling, and coordinating H&S. Furthermore, current H&S documentation: is inappropriate in that it can be complex, generic, lengthy, onerous, repetitive (duplicative), and vague; engenders dubious practices; generally, 'does not add the potential value'; shifts the focus from the physical process, and could be improved.

Recommendations include: industry associations should review their 'audit system' to interrogate the allocation of points; H&S documents must reflect the intention of the requirement; the synergy between H&S documentation, and actions, interventions, and practices should be investigated, digested, and focused upon, and 'audits', or rather inspections, should focus more on the physical process, actions, interventions, and practices, than documentation.

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1. OBJECTIVES OF THE STUDY

The objectives of the study were to determine the:

- Perceived importance of thirty-nine actions / beliefs / interventions / practices / states in terms of achieving optimum construction H&S, and
- Perceptions regarding H&S documentation in construction.

2. RESEARCH METHOD AND SAMPLE STRATUM

Ninety-two (92) Responses were received from four convenience sample strata, and included in the analysis of the data. The self-administered surveys were conducted in the Eastern Cape, Kwazulu Natal, and Western Cape.

3. RESEARCH FINDINGS

3.1 Analysis

The analysis of the data consisted of the calculation of descriptive statistics to depict the frequency distribution and central tendency of responses to fixed response questions to determine the degree of importance, and consensus.

Close ended questions with five-point Likert scales, which also included an 'unsure' response option were used. Therefore, to rank fixed response items according to the central tendency of responses, mean scores (MSs) were calculated as follows:

$$MS = \frac{1n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5}{(n_o + n_1 + n_2 + n_3 + n_4 + n_5) - n_0}$$

The variables are referenced in Table 1.

Table 1: Definition of Likert scale points and related variables

Likert scale point		Variable
Unsure	Unsure	n_o
Least important	Strongly disagree	n_1
Less than important	Disagree	n_2
Important	Neutral	n_3
More than important	Agree	n_4
Very important	Strongly agree	n_5

3.2 Findings

Table 2 indicates the importance of 39 actions / beliefs / interventions / practices / states in terms of achieving optimum construction H&S on a scale of 1 (least) to 5 (very), and a MS ranging between 1.00 and 5.00. It is notable that all the MSs are above the midpoint score of 3.00, which indicates that in general the respondents perceive the actions / beliefs / interventions / practices / states as being very important as opposed to least important in terms of achieving optimum construction H&S.

It is also notable that 32 / 39 (82.1%) of the MSs are > 4.20 ≤ 5.00, which indicates that the importance of the factors is between more than important to very / very important. A further 5 / 39 (12.9%) factors' MSs are > 3.40 ≤ 4.20 - between important to more than important / more than important. Only 2 / 39 (%) MSs are > 2.60 ≤ 3.40 - between less than important to important / important.

With respect to the upper half of the MS range > 4.20 ≤ 5.00, 12 / 32 (37.5%) actions / beliefs / interventions / practices / states have MSs > 4.60. Six are document related and six are not: H&S education; registers (Documents); H&S induction; supervisor H&S inspections; H&S file (Documents); H&S rules (Documents); hazard identification and risk assessments (HIRAs); Foreman H&S inspections; material safety data sheets (MSDSs) (Documents); H&S policy (Documents); H&S Newsletter (Documents), and safe work procedures (SWPs) (following them). 2 / 12 are education and training related - H&S education, and H&S induction. A further 2 / 12 are inspection related - Supervisor H&S inspections, and Foreman H&S inspections. Two are risk control oriented – HIRAs, and SWPs (following them).

With respect to the lower half of the MS range > 4.20 ≤ 5.00, 20 / 32 (62.5%) actions / beliefs / interventions / practices / states have MSs > 4.20. Eight are document related and twelve are not: safe work procedures (SWPs) (Documents); H&S method statements (Documents); generic method statements (Documents); toolbox talks (regular); H&S Manager H&S inspections; written communication; Site Manager H&S inspections; H&S programme; H&S training; H&S management

system; H&S Plan (Documents); toolbox talks (Documents); oral communication; appointments (Documents); reference to H&S upon task instruction; memoranda (Documents); H&S star grading participation; record of inspections (Documents) graphic communication, and H&S Officer H&S inspections. 2 / 20 are education and training related - toolbox talks (regular), and H&S training. 3 / 20 are inspection related - H&S Manager H&S inspections; Site Manager H&S inspections, and H&S Officer H&S inspections. 3 / 20 are communication related – written; oral, and graphic. 3 / 20 are system oriented - H&S programme; H&S management system, and H&S star grading participation. Lastly, one is risk control oriented - reference to H&S upon task instruction.

5 / 39 (12.8%) of the MSs are > 3.40 ≤ 4.20, which indicates that the factors are between important to more than important / more than important. 2 / 5 are document related - H&S induction (Documents), and minutes of meetings (Documents). A further 2 / 5 are system oriented - H&S competition participation, and H&S meetings, and 1 / 5 is inspection related - H&S Representative H&S inspections.

The last 2 / 39 (5.1%) MSs are > 2.60 ≤ 3.40, which indicates that the factors are between less than important to important / important, are document related - hazard identification and risk assessments (HIRAs) (Documents), and H&S Specification (Documents).

Table 2: Importance of actions / beliefs / interventions / practices / states in terms of achieving optimum construction H&S.

Action / Belief / Intervention / Practice / State	Response (%)						MS	Rank
	Un-sure	Least…….Very						
		1	2	3	4	5		
H&S education	0.0	0.0	0.0	3.3	6.6	90.1	4.87	1
Registers (Documents)	0.0	0.0	4.4	35.7	12.0	84.8	4.82	2
H&S induction	0.0	0.0	1.1	6.5	12.0	81.5	4.75	3
Supervisor H&S inspections	0.0	0.0	1.1	3.3	15.4	80.2	4.75	4
H&S file (Documents)	0.0	0.0	3.3	42.9	18.5	76.1	4.71	5
H&S rules (Documents)	0.0	1.1	3.3	3.3	12.1	81.3	4.70	6
Hazard identification and risk assessments (HIRAs)	0.0	0.0	0.0	4.4	18.7	75.8	4.69	7
Foreman H&S inspections	0.0	0.0	0.0	4.4	24.4	71.1	4.67	8
Material safety data sheets (MSDSs) (Documents)	0.0	0.0	2.2	35.7	17.4	76.1	4.65	9
H&S policy (Documents)	0.0	1.1	2.2	7.6	14.1	76.1	4.64	10
H&S Newsletter (Documents)	0.0	2.2	15.2	28.6	20.9	71.4	4.64	11
Safe work procedures (SWPs) (following them)	0.0	0.0	1.1	5.6	24.4	68.9	4.61	12
Safe work procedures (SWPs) (Documents)	0.0	2.2	0.0	21.4	17.4	69.6	4.55	13
H&S method statements (Documents)	0.0	0.0	2.2	15.4	20.7	68.5	4.54	14
Generic method statements (Documents)	0.0	19.6	7.6	30.8	16.5	70.3	4.54	15
Toolbox talks (regular)	0.0	0.0	2.2	6.7	34.4	58.9	4.52	16
H&S Manager H&S inspections	0.0	0.0	0.0	7.8	21.1	67.8	4.52	17
Written communication	0.0	1.1	1.1	7.6	18.5	69.6	4.52	18
Site Manager H&S inspections	0.0	0.0	1.1	8.9	27.8	62.2	4.51	19
H&S programme	0.0	0.0	0.0	9.8	29.3	60.9	4.51	20
H&S training	1.1	0.0	0.0	7.8	28.9	60.0	4.48	21
H&S management system	2.2	0.0	0.0	12.0	20.7	63.0	4.48	22
H&S Plan (Documents)	0.0	1.1	2.2	7.6	31.5	58.7	4.47	23
Toolbox talks (Documents)	0.0	0.0	1.1	7.1	25.0	60.9	4.47	24
Oral communication	0.0	0.0	0.0	9.8	23.9	63.0	4.46	26
Appointments (Documents)	0.0	0.0	3.3	14.3	33.7	56.5	4.46	26
Reference to H&S upon task instruction	0.0	0.0	2.2	12.0	33.7	52.2	4.36	27
Memoranda (Documents)	0.0	0.0	8.0	14.3	31.5	53.3	4.36	28
H&S star grading participation	22.2	5.7	12.5	11.1	11.1	50.0	4.36	29
Record of inspections (Documents)	0.0	0.0	0.0	0.0	28.6	53.8	4.32	30
Graphic communication	0.0	0.0	2.2	14.3	34.1	49.5	4.30	31
H&S Officer H&S inspections	0.0	0.0	1.1	17.0	30.7	50.0	4.28	32
H&S induction (Documents)	0.0	0.0	0.0	14.3	33.3	41.1	4.11	33
H&S competition participation	33.3	6.9	9.2	16.7	16.7	25.0	3.88	34
Minutes of meetings (Documents)	4.5	0.0	4.4	35.7	31.8	27.3	3.82	35
H&S meetings	3.4	0.0	2.3	24.1	34.5	21.8	3.57	36
H&S Representative H&S inspections	2.3	1.1	2.2	26.1	33.0	20.5	3.51	37
Hazard identification and risk assessments (HIRAs) (Documents)	0.0	0.0	0.0	50.0	20.7	17.4	3.36	38
H&S Specification (Documents)	0.0	0.0	2.2	28.3	28.3	16.3	3.14	39

Table 3 indicates the extent to which respondents concur with various statements relative to construction H&S on a scale of strongly disagree to strongly agree, and MSs between 1.00 and 5.00. It is notable that all the statements have MSs > 3.00, which indicates that in general, the respondents agreed with the statements.

The MSs of 7 / 22 (31.8%) statements are > 4.20 ≤ 5.00, which indicates that the concurrence is between agree to strongly agree / strongly agree. In summary: thick / lengthy documents, and complex documents (could be simplified) are not in the interest of H&S; too much documentation results in people 'going through the motions' (ticking boxes), copying and pasting, and not actually addressing the risk.

The MSs of 12 / 22 (54.6%) of the statements are > 3.40 ≤ 4.20, which indicates that the concurrence is between neutral to agree / agree. In summary: too much documentation results in 'window dressing', 'tearoom tick fever', and shifts the focus from the physical aspects of H&S; thick documents marginalise the locating of information; documents contain generic and duplicated information, and are vague; the users of documents should be considered; documents could be improved; the focus is on documentation, documentary evidence, and not the physical process; HURA templates are complex, and H&S has become a 'paperwork game'.

The MSs of 3 / 22 (13.6%) of the statements are > 2.60 ≤ 3.40, which indicates that the concurrence is between disagree to neutral / neutral. In summary: there is too much documentation relative to H&S, and documentation assures / ensures that processes are duly undertaken.

Table 3: Extent of agreement with statements relative to construction H&S.

Statement	Response (%)						MS
	Unsure	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Thick documents discourage people from reading them	0.0	0.0	3.3	6.7	44.4	45.6	4.32
Documentation could be simplified and made more 'user friendly'	1.1	0.0	3.4	11.4	35.2	48.9	4.31
Documentation should be kept to a minimum, with concise, clear and relevant information included	0.0	1.1	1.1	7.8	46.7	43.3	4.30
People tick boxes without really understanding the related processes	0.0	2.2	2.2	4.4	49.5	41.8	4.26
People tick boxes without really undertaking the related processes	0.0	1.1	0.0	8.9	52.2	37.8	4.26
Too much documentation results in 'copying and pasting'	1.1	4.4	1.1	3.3	50.0	40.0	4.21
Many organisations are just producing documentation, rather than addressing risk	3.3	1.1	3.3	8.9	44.4	38.9	4.21
Too much documentation results in 'window dressing'	4.4	4.4	2.2	9.9	41.8	37.4	4.10
Too much documentation results in 'tearoom tick fever'	5.6	3.4	2.2	10.1	44.9	33.7	4.10
Thick documents make finding specific piece of information much more difficult	0.0	2.2	3.3	15.4	42.9	36.3	4.08
Documents would communicate more efficiently using flow charts, bullet points, drawings and pictures, would make documentation more understandable	0.0	0.0	1.1	25.3	38.5	35.2	4.08
Documents contain a significant amount of generic and duplicate information	0.0	0.0	4.4	12.2	57.8	25.6	4.04
The criteria of ease of reading and understanding are frequently not addressed by the authors of documents	1.1	1.1	2.2	19.1	50.6	25.8	3.99
Documentary evidence is the primary concern of management	0.0	0.0	10.2	13.6	50.0	26.1	3.92
Too much documentation shifts the focus from the physical aspects of H&S	0.0	3.4	10.1	10.1	49.4	27.0	3.87
Documents contain vague words such as 'appropriate', 'adequate', 'as necessary', 'sufficient' and' suitable'	2.2	0.0	10.0	16.7	48.9	22.2	3.85
The documentation is right, but the physical process is not	2.2	4.4	7.8	12.2	50.0	23.3	3.82
H&S has become a 'paperwork game'	1.1	4.4	13.3	7.8	45.6	27.8	3.80
HIRA templates are overly complex	3.4	1.1	12.4	29.2	33.7	20.2	3.62
There is too much documentation relative to H&S	0.0	4.4	27.5	19.8	34.1	14.3	3.26
Documentation assures that processes are duly undertaken	0.0	6.7	23.6	22.5	34.8	12.4	3.22
Documentation ensures that processes have been duly undertaken	0.0	5.6	24.4	26.7	32.2	11.1	3.19

4. CONCLUSIONS

In addition to a range of H&S documentation, a range of actions / beliefs / interventions / practices / states are important in terms of achieving optimum construction H&S. In terms of non-H&S documentation, H&S training, H&S induction, inspections by various stakeholders, HIRAs, following SWPs, toolbox talks (regular), written, oral, and graphic communication, H&S programme, H&S training, H&S management system, reference to H&S upon task instruction, and H&S star grading participation predominate. In terms of H&S documentation, registers, H&S File, H&S rules, MSDSs, H&S policy, H&S Newsletter, SWPs, H&S method statements, generic method statements, H&S Plan, toolbox talks, appointments, memoranda, and record of inspections predominate. Therefore, it can be concluded that both H&S documentation and a range of actions / beliefs / interventions / practices / states are important in terms of achieving optimum construction H&S. Furthermore, H&S documentation facilitates and assists planning, organising, leading, controlling, and coordinating of H&S.

The rankings of H&S documents indicate that some documents are more important than others.

Based upon the degree of consensus with various statements, the following can be concluded relative to current H&S documentation: it is inappropriate in that it can be complex, generic, lengthy, onerous, repetitive (duplicative), and vague; it engenders dubious practices; it generally 'does not add the potential value'; it shifts the focus from the physical process, and it could be improved.

5. RECOMMENDATIONS

Industry associations should review their 'audit system' to interrogate the allocation of points relative to H&S documentation vis-à-vis the physical process, and actions, interventions, and practices. An example includes toolbox talks (regular) ranked sixteenth, vis-à-vis toolbox talks (documents), ranked twenty-fourth.

The relative importance of H&S documents should be noted, digested, and deliberated in terms of their 'value' as assigned by the 'audit system' score.

H&S documents must reflect the intention of the requirement. For example, an H&S specification must record, among other, the client's requirements, and residual hazards and risks, and not constitute a regurgitation of the Occupational Health and Safety Act, and the Construction Regulations. The H&S specification, H&S plan, and H&S file are prime examples of documents for which guidelines should be provided by the Department of Labour, or by the Construction Industry Development Board (cidb).

The synergy between H&S documentation, and actions, interventions, and practices should be investigated, digested, and focused upon. For example, HIRAs are ranked seventh, yet HIRAs (documents) are ranked thirty-eighth. The former is the more critical, especially if undertaken just prior to commencing an activity, and even more so, if reinforced by a toolbox talk (ranked sixteenth). A further example is that of SWPs (following them) ranked twelfth, followed by SWPs (documents) ranked thirteenth. The issue is that a copy of the SWP (document) should be on-site where the activity is underway, and referred to, not just filed in the so-called H&S file.

'Audits', or rather inspections, should focus more on the physical process, actions, interventions, and practices, than documentation.