
5.8 *Thick description of the second case study on GSS use*

The content of this case study is structurally similar to the first one, except that it was conducted a year later with a different group of students. Once again the group consisted of five Master of Commerce students. It was a coincidence that the same number of students were involved. They were a different group of students. The learning programme was the same as the previous one. The main difference is that the first assignment was based on a claim made by the lecturer. The claim made was that *the National Qualifications Framework (NQF) of the South African Qualifications Authority (SAQA) is a good example of the USH put to practice*. The students were asked to either agree with this claim or construct a counter claim in disagreement and to present their argument(s) using Toulmin *et al.*'s schema of reasoning. Additional reading on the NQF and SAQA was given to the students. In their ten page first assignment on this topic, none of the students constructed a counter claim.

The GSS meeting was held on 26 October 2001 using the Group Decision Room (GDR) at the CSIR as in the first case study. The students were asked that based on the merits of their individual arguments presented in assignment 1, they, as a group had to present "a group agreement" or "a group disagreement" with the claim. The co-facilitator was one of the previous years' students who was familiar with the GDR setup. Because the claim was given in advance, all they had to do was to enter it into categorizer of GroupSystems, followed by their arguments based on grounds, warrants, backings, modal qualifications, and possible rebuttals (Toulmin *et al.*'s schema). *The facilitators gave no further instructions on the sequence of the meeting. This was deliberately done in order to allow the students to discover some of the underlying design assumptions of the GSS tool (which they did with some accompanying frustrations!) and to see if they would, based on their exposure to critical systems thinking, on their own, structure their arguments in a systematic way while using the tool.* As part of an evaluation of the session and the GSS software, they were also asked to make additional claims on the GSS session or the software and to support their claims using Toulmin *et al.*'s schema of reasoning. The

group used both the GSS tool and verbal discussions to reach “consensus”. In addition, each student completed an evaluation questionnaire at the end of the session. The claims on the sessions and the evaluation questionnaires are discussed and interpreted separately from the strips. The data from the GSS use session is next presented.

5.9 Data from the second case study - text from GSS use

Like in the first case study, we present the transcripts of the GSS discussion session in the form of *strips*. However, unlike in the first case study, here the *strips* are categorised according to the elements of Toulmin *et al.*'s schema of reasoning. This means, for example, that the grounds from all the participants are grouped together, the backings together *etc.* This is because although the group was at liberty to identify themselves and own their lines of arguments as in the first case study, they did not do so. The result was that the whole session was held under anonymity and less process structuring - the only meeting structure being the elements of Toulmin *et al.*'s schema. We anticipated that these two forms of categorising the strips would enriched our interpretation of the GSS sessions and thus enhance our understanding of GSS use in decision justification environments, although we could not tell in advance what form of enhancement in our understanding would emerge.

Strip 2-1

Claim: The NQF of SAQA is a good example of USH put to practice.

The literature reviewed indicates that the NQF is a good example of the USH. it can be shown diagrammatically to contain systems within a containing system with inflow and outflow into the containing and the other systems and it exists within an environment of other related systems
 {#47}

Strip 2-2

Grounds:

Principle of Interaction {#9}

Principle of Cohesion {#10}

Principle of Connected Variety {#11}

Principle of Limited Variety {#12}

Principle of Preferred Patterns {#13}

Has cyclic progression {#14}

Principle of Cyclical Progression {#15}

Please add additional detail for your principles {#16}

USH seeks to establish certain principles, which apply to all systems {#17}

principles already mentioned by another participant can be used to conceptualise a system and thus produce grounds for the claim made {#20}

Would you say that the NQF is an example of the USH? because of the relationship between the elements, their qualities or their positional value in the system?? {#21}

There is a hierarchical approach to the way in which NQF is structured, thus forming a part of the GENERAL SYSTEMS VIEW. {#22}

The NQF system as defined shows various good examples of all the USH principles {#23}

Not serious in making #23 a grounds are you ??? {#24}

#23 resembles a claim ! {#25}

#22 resembles a warrant {#27}

NQF displays all the characteristics of the USH principles from General systems view till cyclic progression. It encompasses all the systems methodology that we know of. It views all the components of the NQF as subsystems, thereby allowing for the main(NQF) to function as a whole. Thus the whole is greater than the sum of its parts {#31}

NQF is a social construct - general system thinking. It will continue to be negotiated for people by people. It is a life long learning system which brings together from a variety of South Africans with different socio-economic backgrounds, representing a variety of worldviews - critical thinking {#36}

#31 is a Claim {#37}

Response to #16 - No.... Refer to USH itself - No need to retype the whole thing - First Principle Argument will only stiffen discussion {#40}

#25 The grounds will always resemble be "a claim" otherwise it would not need a warrant and backing {#42}

Refer #42 - No... Not true. Grounds stand by themselves (by Definition) {#49}

Disagree with point no 40 - I understand that you need to add the detail of why and how the systems principles apply to the NQF to get to a point of agreeing or disagreeing on the claim!! {#51}

agree with point 49 - grounds are the foundation of the claim which is why detail needs to be motivated {#53}

#31 is a basis for the claim, there are many subsystems/mini programmes in the NQF system. If describing the NQF according to the general systems view, one can say that an environment exists(that is the SA education) there are boundaries(politics and levels of education) as well as a fixed hierarchy (there is a fixed progression in the way the process works). {#55}

Basis for a Claim = Warrant !! {#60}

NQF can be described as making the democratisation of the learning process in SA. It aims to make one system for education {#72}

Yet another Claim ? {#74}

The grounds for this is that the process before was not very stable and different systems, this would make the process a "standardised" one, therefore the grounds for the NQF to be classified within USH is that there should be systems view point {#76}

agree that it is based on the principles of USH {#99}

I agree on #9, #10, #11, #12, #13 and #15 {#100}

Recent input in this point went around what is a ground rather than what is the ground in this situation. The ground should be that the principles listed in various inputs in this section are the characteristics of USH and the NQF exhibit these characteristics - therefore agree with pt 99 {#101}

USH principles allow us to distinguish that the NQF can be described as a system! {#102}

Can someone write one single clear ground, please... {#106}

106 Check the consensus box {#110}

Let me try..... Grounds may be the Six Principles of the USH as listed in the beginning #9, #10, #11, #12, #13 and #15. Shall we use these ? {#112}

Agree {#114}

These are the underlying principles I think each of us used to come to the conclusion that the NQF is a system, {#119}, so can we please agree on this {#120}

Strip 2-3

Warrants

The warrants indicate that the characteristics of the NQF are similar to the characteristics of the USH which are also common to other systems thinking characteristics {#28}

Practical examples of the USH principles in the system under investigation normally means that the USH principles can be applied to that system. {#35}

Grounds #9 - The functions of the ETQA {#29}

Grounds #10 - Ask me {#32}

The NQF separates itself in to three parts: 1. Setting of standards; 2: the design, delivery and assessment thereof, 3: quality assurance process. Thus smaller parts working together for the benefit of the whole {#39}

#39 should be listed under grounds(?) agree with the warrant in #35 {#50}

point 39 summarises the warrants of the NQF well - therefore disagree with point 50 - warrants justify the move from the grounds to the claim {#57}

#39 summarises the warrant for the claim, cannot be placed under grounds because this a the way in which it functions, grounds would be the actual proof or circumstances about the claim {#59}

Warrant ?? {#65}

NQF provides us with a basis for systematic change: a system that challenges the number of assumptions that exist in respect to how an education system works, a system with an opportunity to grow and develop in new ways! {#88}

Yet another Claim ? {#90}

warrant for a claim that the NQF forms part of the USH principles {#92}

That is not the Claim..... The claim is that the NQF is good example of USH put to use.... Read it... Not that NQF forms part... ? {#94}

agree on #92 {#95}

Shall we Vote / Fight ?? {#96}

#92, u are correct,that it what I meant {#98}

the proposed warrant it that it is academically accepted to apply a theory to a structure such as the NQF - a theory which in this cases is accepted. {#105}

What ? {#108}

Strip 2-4

Backing

Warrant #29 - Government Gazette No19231 {#34}

There are no legal principles or laws of science involved in this environment - there cannot be a true scientific experiment performed - so the interpretation needs to be based on the available literature and authors interpretation. {#41}

The transformation and evolving of the system - as discussed by Kraak - and supported by the principles in Gasparski, is applicable to the NQF {#43}

Is #41 a claim or a backing ? {#44}

Response to #43 - Kraak and Gasparski presented as Backing or Claimed to be applicable ? {#46} aren't the principles as explained by Hitchens and Shrivenham the backing as well {#52}

Backing is reference material applicable to the mechanisms of the NQF {#54}

Hitchens and Shrivenham would go down as Grounds (Principles) {#56}

With reference to point 44 - the backing is supposed to confirm if the claim is a safe move to make - it should reference applicable laws of science or principles accepted in a profession e.g. accounting or law - in this case there are no strict rules to apply... {#61}

Shouldn't principles be placed under warrants? {#64}

No... Principles are Grounds.... Warrants is the essence of the Argument {#70}

With reference to pt 64 - according to Toulmin - warrants cannot be taken on trust - they can either be accepted based on research data - or rules (accepted principles within the profession in which the debate takes place) that forms the backing to accepting the warrants {#97}

Proposed backing is that the claim can be accepted based on the literature study and understanding by the group of the literature and the principles involved in the USH and the NQF {#111}

Strip 2-5

Modal qualifier

"Currently" {#18}

Presumably {#26}

Appears so - reason being it is one person's perception as indicated in the article by Kraak - and there is not empirical research to prove this {#33}

33 did we look for cases of empirical research? there should be some evidence {#58}

With reference to point 58 - I was not aware of empirical research in the literature which is why Hitchins and Shrivvenham maintain it is still a hypothesis. {#63}

#63 - is that where critical thinking comes into the picture? {#68}

What is the critical thinking you are referring to in pt 68 - or do you mean that we need to take leaps in interpretation and application of the theory to accept or reject the claim or that we need to broaden the perspective on the issue? {#116}

No {#117}

critical thinking indicates that there can be no fixed rules and procedures. Some things will always be hypothesis, because of continuous change {#129}

Strip 2-6

Rebuttal

A "wider" interpretation of the grounds than that which is encompassed using a more "narrow" interpretation {#19}

Unless the viewpoint of investigation of the NQF system or the definition changes and some of the USH principles are discovered as not present in the NQF system. {#30}

The support of the claim is based on presently available work and literature study - additional work and literature which reflects different points of view could change this - without data it all depends on different peoples perceptions and opinions which in turn reflect their life experiences. {#38}

Most people feel that the NQF is only about a change in the learning programme development that is to reform the teaching process. This is evident in that all forms of teaching and learning is now being based on the curriculum 2005, which according to most people will not work in our country {#45}

If the claim in #45 is to be interpreted, it means that the major stumbling block in the NQF's progress because, people are interpreting it as a programme instead of a FRAMEWORK! {#48}

if the same standards are not applied throughout the whole NQF system the credibility and integrity of the whole system could be in jeopardy {#62}

point 62 - this is looking at the effectiveness of the system - not whether it is a system or not? It can still be a system even if the standards are not applied - it will maybe not be a stable system {#66}

that is the reason the NQF exists :TO SET STANDARDS {#67}

#66 I agree, it can still function as a system {#73}

Place it in Consensus..... {#75}

*Strip 2-7: all elements of the schema***Consensus reached through system**

In all the comments made there do not seem to be any that refute the claim - they all seem to provide information of why the NQF is a good example of USH although I would expect better and more detailed arguments to support this. {#69}

Arguments is Warrants.....Pre Typed & Available {#71}

Any disagreement to point 699 - please submit urgently {#77}

Point 699 ??? {#78}

Do we need a single ground, warrant and backing? {#79}

sorry I intended to type point 69 {#80}

Response #79 - No certainly not.... Each claim can have it's own..... {#81}

Agree ??? {#82}

yes {#83}

Backing: the principles described by Hitchins&Shrivenham indicate that when present in any system, that system qualifies as a system(warrant). because NQF of SAQA has the following characteristics of a system (input, boundaries,output, goals, purposes, function within an environment under certain external constraints) we can conclude that IF these characteristics are correctly identified AND comply to all the prescriptions AND same standards are applied across the system(modality) then NQF of SAQA is a good example of USH put to practice, ELSE (rebuttal) integrity and credibility of whole system is placed in jeopardy {#84}

Thank you.... Place it in Consensus {#85}

in reply to point 79 I understand that the consensus is supposed to indicate if the comments on all of grounds warrants and backing is along one line of argument or there is debate - I do not see any debate in this dialogue there appears to be consensus {#86}

What ? {#87}

The value and merits of the system and how it operates is a separate discussion - the conclusion in this exercise should be that using Toulmin's schema of reasoning - the NQF of SAQA is a good example of the Unified Systems Hypothesis - does this go any further to help support the hypothesis?? what more needs to be done to accept the hypothesis?? {#89}

#84 sounds good to me.... {#91}

thank you #91 {#93}

Grounds: NQF of SAQA has the following qualifying characteristics of a system input, boundaries, output, goals, purposes, function within an environment under certain external constraints {#103}

Agree with #103 {#104}

Agree with 103 {#107}

Backing: the principles described by Hitchens&Shrivenham {#109}

Warrant: principles should be present in a system to qualify as a system {#113}

agree with 109 and 113 {#115}

I am getting extremely frustrated - I do feel there is consensus on all these issues and this topic should now be closed - I am signing off {#118}

Sjeesh..... {#121}

I make the sound of one hand clapping.... {#122}

consensus reached for me is that there is a NQF is a system , this can be justified by using the USH principles as a basis for this argument. {#123}

what is the definition of consensus - do we really have to spell it out!!!!!! We agree!!!!!! {#124}

Not agree, just had your say.... {#125}

yes we do {#126}

pt 125 why do you say we do not agree - we are all saying the information in all the sections support the claim what more do we have to do??? {#127}

why don't u agree? {#128}

Time out please - can we try a new simple topic please!! {#130}

Consensus reached through verbal discussion

Grounds - The principles of USH are the grounds {#135}

Warrant - If these principles are present in any system and appropriately applied then the system qualifies as a system {#137}

Backing - based on the literature of systems theory ,USH and NQF {#136}

Modality - Currently appears to {#138}

Rebuttals - Based on a wider interpretation of the grounds than that which is encompassed using a more narrow interpretation {#139}

That there is not enough clarity on Toulmin's scheme particularly on the warrants. I however feel that the purpose of this meeting is to explore and understand the GSS system and not redebate Toulmin and the NQF as a USH - that was the topic for the 1st assignment. If we applied the GSS to a more appropriate type of meeting - e.g. to brainstorm the topics that should be in a future Informatics Masters course, there would be a more positive perspective on GSS. {#134}

5.10 Setting the scene for the use of the analysis framework

We have already presented detailed illustrations in section 4.2.3 of chapter 4 on how the analysis framework would be used to interpret the data from GSS use. While the strips as presented above would serve as organised units for analysis, we will also follow Gopal and Prasad's (2000) advice to look at the entire *project* of GSS use. In this case the project is the learning programme of the students as a result of which the data presented was produced. The architectures of Figures 4.3, 4.13 and 4.14 as respectively explained in chapter 4 on the alternative hermeneutic circle, thinkLets and Symbolic Interaction would be deployed in the data analysis process.

5.11 Conclusion on Part II

This part contains an extensive amount of data which is organized in a way that would enable us to deploy the five analysis schemes presented in chapter 4. Trauth and Jessup (2000) point out that what is necessary but not sufficient for reliability of interpretive research is that detailed documentation of procedures be provided. They go on to say that what is also necessary is to employ methods that can demonstrate how the interpretation is consistent with the data. According to these authors, this occurs in interpretive research when the reader, after having read the researcher's account of the process, would be able to see how the interpretation is meaningful rather than simply made up. They indicate that this is done by walking the reader through the process of developing the interpretation.

We have presented in this part the data on GSS use whose understanding we will seek through the use of the analysis framework. In the main, a better understanding of the data presented in this part will enable us to address the second leg of our research purpose. We trust that the data we have presented in this part, together with the description of the

process we have followed in arriving at it will enable the reader to walk with us as we engage in the analysis process in Part III.

Part III: Interpretation of Results

5.12 Introduction

In this part we put to use the multi-theoretic Analysis Framework presented in chapters 3 and 4 together with its respective subsystems depicted in Figures 4.4, 4.5, 4.11, 4.13 and 4.14 of chapter 4. We call these subsystems *Framework Schemes* and the sequence of their application is summarized in Table 5.2. Framework Schemes I-III are used to interpret the questionnaire generated text while Framework Schemes IV and V aim at making sense of the GSS session text. Each Framework Scheme is used as a lens to “look through” each of the eight questions of the Consolidated Morphological Fields in Table 5.1. The use of Morphological Graphs was found to be more helpful in giving a quick “bird’s eye view” of the data on the basis of which further interpretation is made.

From these consolidated results, the relevant theories within the respective Framework Schemes are used for further illumination, corroborated with specific text excerpts from Table 5.0 where appropriate and necessary.

Interpreting the questionnaire text

In order to keep the analysis as a coherent whole, we found it instructive to introduce a new terminology together with an additional procedural outline. The outline is an extension of Table 5.2 (previously Table 4.2) and includes the overall interpretations of the text from each Framework Scheme across each question. We call these overall interpretations *grids of interpretations*. These interpretations could be at any of our interpretive levels, whether *systemic*, *interpretive* or *hermeneutic* as described earlier.

Table 5.2: Framework Schemes at a glance (previously Table 4.2)

	Systemic - Interpretive - Hermeneutic levels				
	Framework Scheme I	Framework Scheme II	Framework Scheme III	Framework Scheme IV	Framework Scheme V
Decision Justification Environment (Context)	Toulmin <i>et al.</i> 's schema of reasoning	Toulmin <i>et al.</i> 's schema of reasoning	Toulmin <i>et al.</i> 's schema of reasoning Courtney's new decision-making paradigm for DSS	Toulmin <i>et al.</i> 's schema of reasoning Briggs <i>et al.</i> 's thinkLets for GSS research	Toulmin <i>et al.</i> 's schema of reasoning Gopal and Prasad's focus on Symbolic interaction for GSS
Decision-making Group ("text")	Giddens Orlikowski Poole <i>et al.</i> without technology	Giddens Orlikowski Poole <i>et al.</i> with technology	Giddens Orlikowski Poole <i>et al.</i> with technology	Giddens Orlikowski Poole <i>et al.</i> with technology	Giddens Orlikowski Poole <i>et al.</i> with technology

They are the interpretive outcomes of applying the respective Framework Schemes to the text. The grids are given distinguishing labels in accordance with their corresponding Framework Schemes and questions. For instance GFSI-Q1 is the label for a *grid of interpretations* resulting from applying Framework Scheme I on question 1. The outline is shown in Table 5.3. This outline is a procedural construct and we leave out the details of the grids themselves to a later stage when all the interpretations would have been made. When completed, the outline would have produced thirty-eight grids of interpretations, with twenty-four from questionnaire text and fourteen from GSS use text.

Table 5.3: Grids of interpretations labels

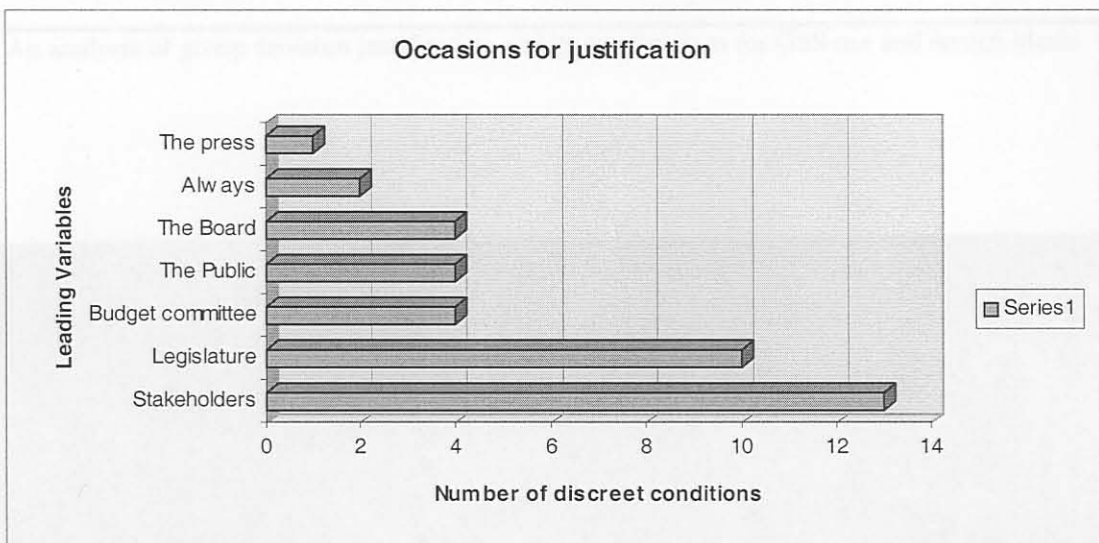
Framework Scheme	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
I	GFSI-Q1	GFSI-Q2	GFSI-Q3	GFSI-Q4	GFSI-Q5	GFSI-Q6	GFSI-Q7	GFSI-Q8
II	GFSII-Q1	GFSII-Q2	GFSII-Q3	GFSII-Q4	GFSII-Q5	GFSII-Q6	GFSII-Q7	GFSII-Q8
III	GFSIII-Q1	GFSIII-Q2	GFSIII-Q3	GFSIII-Q4	GFSIII-Q5	GFSIII-Q6	GFSIII-Q7	GFSIII-Q8
IV & V GSS 1 text	The GSS text is categorized using Agar's concept of a strip. Seven strips are analyzed using Framework Schemes IV and V.							
IV & V GSS 2 text	The GSS strips are categorized in accordance with Toulmin <i>et al.</i> 's schema of reasoning and analyzed using Framework Schemes IV and V. Seven strips are analyzed.							

5.13 Framework Schemes I-III applied to text from the first question

The aim of question 1 was to find out from the key informant representatives of the group if there were occasions when his or her group had to justify its decision to other people. Using a combination of some aspects of Morphological Analysis and Grounded Theory, seven leading variables were identified from the thirty-four responses. The leading variable with most properties or “discreet” conditions are Stakeholders, followed by Legislature. Budget Committee, the Board and the Public are next with equal numbers of discreet conditions. The Always and the Press leading variables have relatively fewer discreet conditions. Graph 1 captures in a nutshell the essence of the responses to the question. In order to further analyze the text (responses), we apply the three Framework schemes, FSI-Q1, FSII-Q1 and FSIII-Q1. The results are three corresponding grids of interpretations; GFSI-Q1, GFSII-Q1 and GFSIII-Q1. We follow this process until all the responses have been analyzed.

GFSI-Q1

In applying FSI-Q1, we start from the Decision Justification Environment (context) to the Decision-making group (text) in our application of Framework Scheme I.



Graph 1: Morphological graph for question 1

Reading the data through Toulmin *et al.*'s schema of reasoning which serves as a basis of the Decision Justification Environment (context), the seven leading variables describes occasions, which, in their varying degrees, establish *contexts* for decision justification. There are therefore numerous context specific occasions for groups to justify their decisions to others. The following excerpts illustrate these contexts:

“There are numerous occasions. For example; explain budget limitations to project managers, justify office expenditures vs. head office organization, explain to local organizations reasons for impossibility to meet their requests for funding, justify overhead costs to recipients for funding.” (Respondent 14)

Respondent 18 captures it thus:

“We often have to justify decisions: to funders in terms of how we have used their money [Via funding reports], to clients during projects, as part of measuring progress [usually during meetings], to ourselves, as we chart the broad direction of the organization and ensure it is in line with our vision/mission [during weekly/annual planning sessions], to our Trustees, in terms of broad vision [during BI-annual meetings]”

While respondent 24 remarks:

“All decisions have to be justified, so on most occasions such justifications/explanations have to be given.”

For respondent 26, it is a matter of common good and public accountability:

“The very nature of the policies that govern the functioning of my organization embodies such values, as transparency, professionalism, equity, fairness, participation and accountability make abundantly clear that we need to justify virtually every decision we make. Starting from budgeting and planning, my organization has to make value choices.

We have to prioritise what we want to spend the limited resources at our disposal on. These choices have to be defended before the budget committee. This is where my department justifies their decisions. We are holding in trust public funds for public or common good, we are therefore not at carte blanche to spend willy-nilly. We are accountable to the public. Through our political head we table our budget speech at the legislature for all sectors to poke holes at it. This provides us with another chance to defend our decisions to the public..."

What we are aiming at is to interpret the significance and potential meanings evoked from the decision-making group (text-analogue) by the decision justification environment (context). It is clear that the contexts just described cannot be separated from the decision-making group itself (the text-analogue). A decision-making group operating within a decision justification context is always enabled or already constrained by the prevailing context. From a structurational point of view, these enablers or constraints are in the form of institutional structures, rules, resources, power and norms. The text-analogue suggests that the *institutional structures* in which the groups operates provide the most occasions for decision justification - for example, the Stakeholders, the Legislature, the Budget Committees and the Board. At the same time *interaction* draws on these institutions to constitute *modalities*, in so doing, reconstituting the institutions. The leading variable of Always suggests a decision justification *norm*, while the Press is a modality through which to reach the ultimate beneficiaries of the justification process, the Public. In other words, one could interpret the leading variables as saying - given that the Stakeholders (the Legislature, the Budget Committee, the Public, the Board and the Press) *expect it*, there are many occasions when a group has to justify its decisions to others. What is also observable here is that the discreet conditions of the Legislature are *normative*. This is not surprising from a South African constitutional perspective alluded to in chapter 2, even though others responded from the perspectives of groups within their own organizations and countries, rather than from a South African perspective.

At the systemic level of the question, two additional observations can be made. The first observation is that while occasions for decision justification do not always presents

themselves in the case of individuals, they seem to in the case of groups. Bacharach *et al.*'s (1995) argument that in organizations, a primary source of this anticipatory anxiety is *accountability* and that underlying every managerial hierarchy in complex organizations is some norm of accountability seem to be well supported by the text-analogue we have presented. The second observation is that considered from Toulmin *et al.*'s schema of reasoning point of view, these occasions take the form of *grounds* for group decision justification. We will return to these observations later in our analysis. Framework Scheme I enables us therefore to assign meanings to the text based on various justification contexts while the text assists us to gain a better understanding of the contexts.

GFSII-Q1

This Framework Scheme is similar to the previous one (FSI-Q1), except that it brings in the technology lens. Respondents 2, 4, 8 and 13 do make reference to information technology. However, their reference is either in terms of the budget for equipment acquisition, infrastructure plans or the governance structure of their organizations. In structural sense, this in line with Orlikowski's (1992) proposal that we consider technology as one kind of structural property of organizations developing and or using technology. According to the text, and in line with Orlikowski's proposal, the technology is an instantiation of some of the rules and resources constituting the structure of an organization. Respondent 13 clearly demonstrate this:

“... To the Director General who is the Executive head of the province, to head of department in which the information technology department resides, to the central information technology committee that function as the official IT governance in the province, to the departmental IT committee - IT governance at provincial departments level.”

All these point to the institutional structure made of various IT Stakeholder groups within a provincial government department, confirming Orlikowski's proposal.

GFSIII-Q1

Looking at the data through the lens of Courtney's (2001) new decision-making paradigm, the leading variables become the bases for the development of multiple perspectives. For instance the following excerpts demonstrate the O perspective:

"Some decisions are based on proposals that are submitted by our partner organizations to fund their projects. When these proposals are declined, it is necessary to give an explanation, especially for key organizations or individuals who occupy important positions." (Respondent 1)

"Our organization is a foreign policy think tank. Besides being answerable to a board, we have a broad constituency in government and civil society as well as regional, continental and international networks. The choices and outcomes of our research activity have to be evaluated by the board and have to have an impressive value to our beneficiaries/constituencies. In this sense, choices of projects (decisions) must be justified in terms of their relevance and utility." (Respondent 28)

"Yes, I always have to explain or justify my decisions to the MEC, the Head of Department, and the Executive Committee of the Provincial Legislature, the National Department of Education, the Trade Unions and the communities served by the Department. When services of redundant teachers are terminated, when over expenditure on personnel occurs, when new posts have to be created, those decisions have to be justified to all stakeholders." (Respondent 3).

"Accountability to parliamentary or legislature structures, public when they enquire, public when there is a change in policy or implementation, internally when policy changes, labour organizations." (Respondent 31)

Respondent 4 on the other hand demonstrates the T perspective:

“The dynamic nature of the IT field warrants explanation of some decisions especially to IT - illiterate persons.”

As we have suggested in chapter 4, application of Figure 4.12 would be helpful here. With decision justification being one of these perspectives, the development of the other perspectives (the T, O, P, Ethics, Aesthetic) is bound to be different. For instance when a group knows in advance that it would have to justify its decision, it can be expected that it would develop a justification T perspective, or a justification O perspective *etc.* in its decision-making process. This means that the group decision-making process itself would be different. In assisting groups with the development of these justification perspectives, Toulmin *et al.*'s schema of reasoning would be valuable. In terms of Courtney's new decision-making paradigm, the *context* in our analysis framework includes the development of multiple perspectives (the process) while the *text* includes the group's perspectives themselves.

5.14 Framework Schemes I-III applied to text from the second question

GFSI-Q2

Question 2 is a follow-up to question 1. Its aim was to find out whether the occasions referred to in question 1 were found to be compelling due to reasonable and satisfactory grounds; or if they were found to deserve no response in some instances.

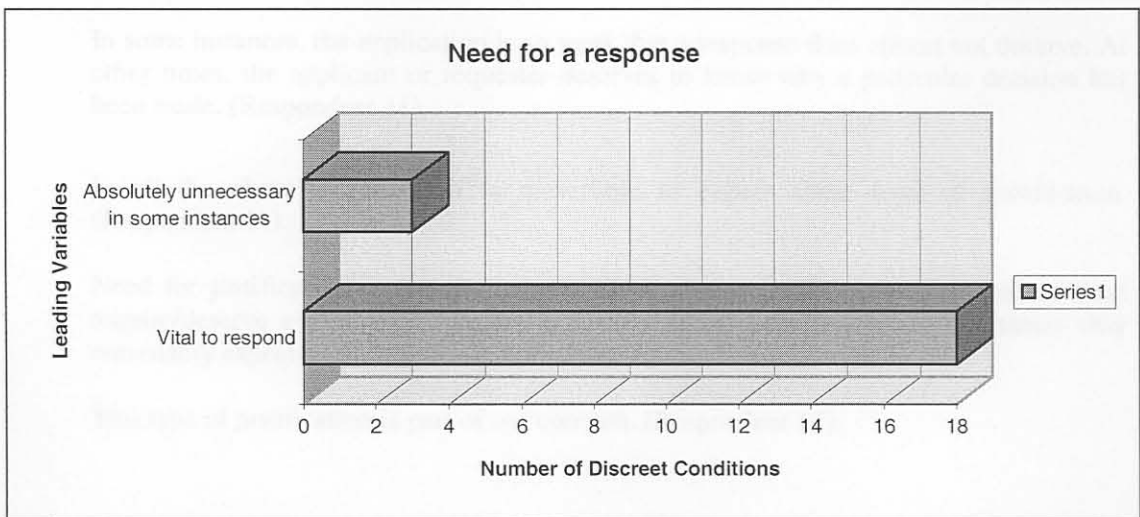
The responses captured in Graph 2 indicate a greater need for a response to the occasions. The 'discreet' conditions taken together better elucidate this need for a response:

Always compelling as they have profound impact on other stakeholders, in most cases compelling, need to explain why justify, share information, to contain perceptions, to satisfy customers, allocated funds, need to be reflective, even those that do not deserve it, it is courteous to respond, deserving, if addressed to office, for good communication, it is part of our jobs, in my organization's own interest, little or no co-operation if failing to justify, always necessary even if stating the obvious, it is reasonable to expect it, when required.

Using Introna’s explanation of interpretation, one can say that the justification occasions are grounded in the in-order-to’s and the for-the-sake-of’s as illustrated by the following respondents:

Yes, for the sake of transparency there are always compelling grounds for explanation/justification. (Respondent 24)

In such occasions, I find them compelling due to the fact that failure to justify means there will be little or no co-operation. (Respondent 12)



Graph 2: Morphological graph for question 2

Very often yes. For the sake of transparency and plain good communication, it is most of the time compelling on satisfactory grounds. Due to ignorance or lack of insight it is sometimes unnecessary and does not need a response. (Respondent 23).

I market my department with every opportunity I get. I see justification of decisions as a way to help others understand what we try to achieve in it. (Respondent 9).

In my organization’s own interest. (Respondent 16).

All queries are treated with utmost urgency. It is not for my department to award marks for queries but it is vital for us to respond. Perceptions, in my view should be well contained in order for any organization to succeed. No query in my department will go

unattended. I am creating a responsive, reiterative and reflective organization whose aim is to satisfy its customers. (Respondent 26).

Necessary to share information and decisions with lower ranking officials. (Respondent 30).

As a statutory body, we are required to consider each query as deserving a response. Most queries stem from a lack of understanding of legislation and SSS policies & procedures, and it is one of the SSS's functions to disseminate such information. (Respondent 20)

When looking at the data through Toulmin *et al's* schema of reasoning, we are able to see the following confirmations, which in various ways, indicate that most groups find compelling grounds to respond:

Even those that don't deserve a response, the organization is courteous to respond. (Respondent 1)

Response always provided, even if simply stating the obvious. (Respondent 2).

I find them compelling because they have a profound impact on other stakeholders in education. (Respondent 3).

In most instances, it is useful and contributes towards a culture of openness. However, where questions are deliberately phrased so as to react negatively to a decision - no additional justification will help. (Respondent 4).

Normally these directly impact budgets and people, therefore take them seriously. (Respondent 8)

In some instances, the application is so weak that a response does almost not deserve. At other times, the applicant or requester deserves to know why a particular decision has been made. (Respondent 11).

In all the above occasions it is reasonable to expect some form of justification. (Respondent 13).

Need for justification/explanation varies. There are occasions/instances, which do not require/deserve a response. On many occasions clients superiors or staff members may reasonably expect explanations. (Respondent 14).

This type of justification is part of our core job. (Respondent 17).

The above are all compelling in principle. Sometimes there is a mismatch between clients/funder expectation and our contractual agreement, and this can lead to problems. (Respondent 18).

In most cases on reasonable and satisfactory grounds. (Respondent 19).

The occasions are usually compelling, but may also not deserve response. (Respondent 21).

Mostly compelling. In very few instances are they deserving of no response. (Respondent 22).

They are reasonable and compelling; i.e. there is a reason behind such an enquiry. (Respondent 25).

To the extent that the central government allocates money to us, there are compelling reasons to justify. On other occasions, I find it absolutely unnecessary. (Respondent 27)

The organization has core analytical competencies for which it enjoys a healthy reputation. There have been occasions when certain projects focuses vs. preferred others had to be justified. This has been the case with government departments and potential donors. If not constructive or suggestive, they will tend to be ignored. (Respondent 28)

Justifications will always have to be made but only when required by circumstances. But, while justifications exist, they need to be explained or even divulged. (Respondent 29)

In almost all cases I feel obliged to respond by providing facts and compelling reasons. (Respondent 32)

Every query deserves a response. If addressed to office, it needs a response. (Respondent 33)

GFSII-Q2

Due to the nature of this question, there is no reference to technology by any respondent for this grid of interpretation. The framework scheme is thus equivalent to the previous one (*FSI-Q2*). Thus, the text generated by question 2 can be said to belong to the decision justification environment (context), which is largely accounted for through the application of Toulmin *et al's* schema of reasoning.

GFSIII-Q2

Sweeping in Courtney's new decision-making paradigm for DSS, one can say that in principle, each respondent sees a problem differently and thus generates a distinct perspective on it. However, one notices that most of the perspectives are O perspectives, although the Ethics perspective as reflected in the following responses can also be seen:

Even those that don't deserve a response, the organization is courteous to respond.
(Respondent 1)

Response always provided, even if simply stating the obvious. (Respondent 2).

Normally these directly impact budgets and people, therefore take them seriously.
(Respondent 8)

5.15 Framework Schemes I-III applied to text from the third question

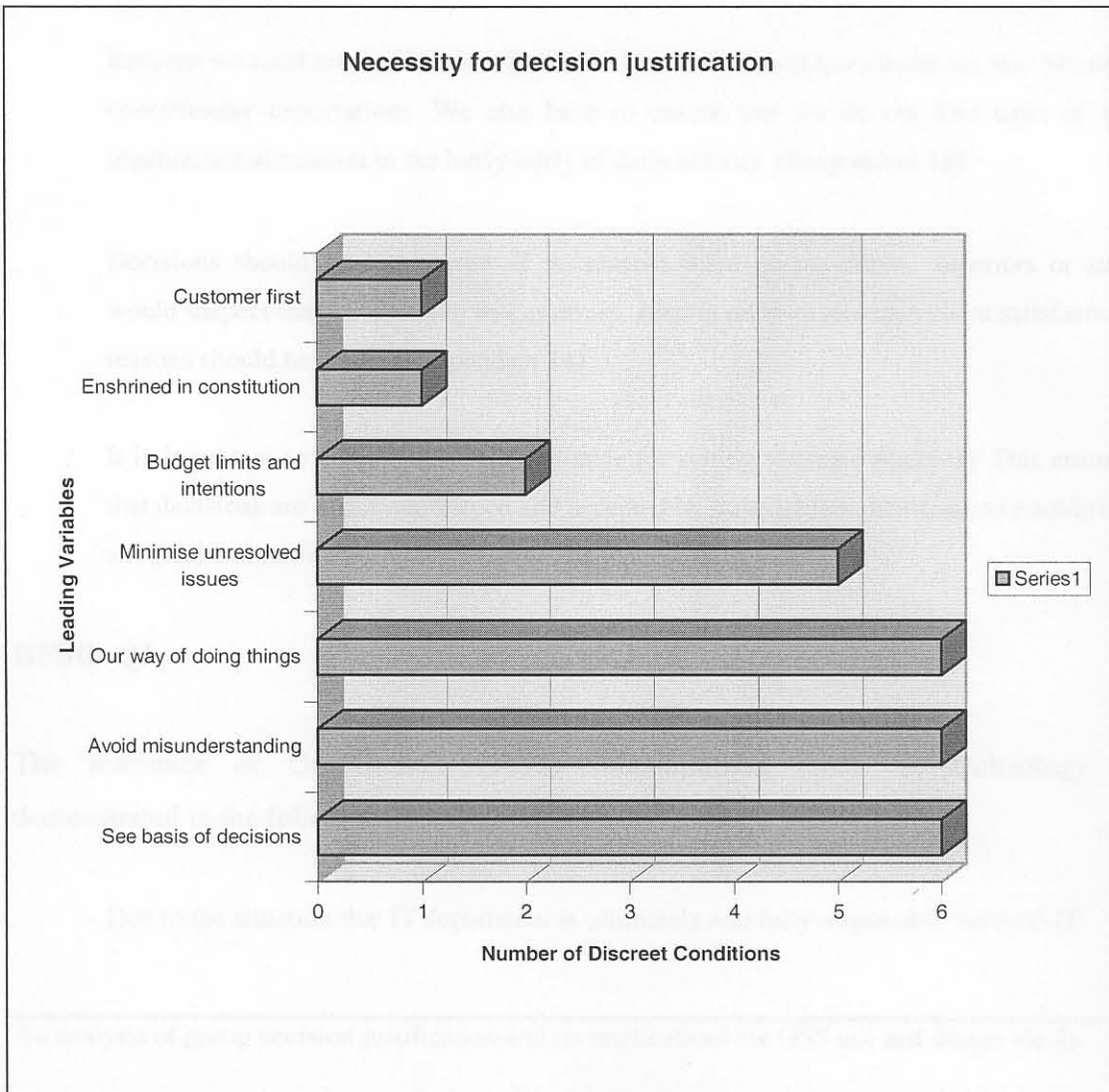
This question captured why the justification of group decisions was necessary. This is perhaps the most important question since it relates directly to the purpose of the study. The Morphological Graph 3 captures the consolidated responses. There are seven leading variables, three of which have the same number of discreet conditions; *our way of doing things*, *Avoid misunderstanding* and *See basis of decisions*. *Minimize unresolved issues* is next with five discreet conditions followed by *Stay within budget and intentions* with two condition. *Enshrined in the constitution* and *Customer first* are last with only one discreet condition. The reader is urged not to loose sight of the fact that in applying the framework schemes, we are interpreting the text within the Decision Justification context in accordance with the analysis framework. Grids of interpretations should therefore not be seen in isolation.

GFSI -Q3

The leading variables, *Our way of doing things*, *Avoid misunderstanding* and *See basis of decisions*, *Minimize unresolved issues* and *Stay within budget and intentions* could be

seen as backing in Toulmin *et al.*'s schema of reasoning; while *Enshrined in the constitution* and *Customer first* could be seen as warrants. Thus, in Toulmin *et al.*'s terminology, one can interpret the results of Graph 3 as saying: - justification of decisions is our ways of doing things. It is done so that people can see the bases of the decision made, in so doing, avoid misunderstanding, minimise unresolved issues and stay within budget and intentions. Furthermore, the need for decision justification is enshrined in the constitution and the principle of customer first.

Through the structurational lens, we see in the leading variables, *norms* as well as *rules and resources*, which enable or constrain group actions. For instance "our way of doing things" which is used as *backing* in Toulmin *et al.*'s schema is a *norm* in Giddens' structuration theory, while "stay within budget and intentions" constitutes *rules and resources* in structurational sense. The warrants (constitution and customer first) translate into structurational *modalities*.



Graph 3: Morphological graph for question 3

The following excerpt from the respondents illustrates institutional properties in a normative structural sense. They constitute organizational structure of legitimation through which the organizational practices and tradition are sustained:

As has been stated in question one, to justify our decisions is not a choice but a way of doing things that is enshrined in the constitution of the country. We are following the model of an entrepreneurial government, which puts the customers first. When one looks

carefully at Batho Pele, one clearly sees that decisions taken by government on behalf of the public must be sufficiently justified to the public. (Respondent 26)

We are a public funded institution. We are a statutory body and our functions are legislated. Criticism is important to ensure we are responsive to the public's needs - justifying decisions is part of this. (Respondent 20)

As a public institution whose decisions may affect the functioning of the economy, it is imperative that we provide the reasoning behind organizational decisions. (Respondent 6)

Consistency of application of decisions or more appropriately that a consistent process is followed must be seen to be working. On a more down to earth note, applicants are sometimes woefully ill informed that they need to be told why certain decisions have been made. (Respondent 11)

Because we need to be held accountable for our actions, and have to ensure that we meet client/funder expectations. We also have to ensure that we do not lose sight of our organizational mission in the hurly-burly of daily activity. (Respondent 18)

Decisions should be transparent. If no reasons were given, clients, superiors or staff would suspect that the decision was arbitrary. Also in order to maintain client satisfaction, reasons should be given. (Respondent 14)

It is important to communicate the rationale for setting strategic direction. This ensures that decisions are better understood and accepted by stakeholders. Justification establishes a logical and rational need for the decision made. (Respondent 13)

GFSII -Q3

The relevance of Orlikowski's (1992) structurational model of technology is demonstrated in the following two excerpts:

Due to the situation that IT department is ultimately and fully responsible for total IT

(Infrastructure, projects, daily activities, provision of info etc.) in this organization. (Respondent 2).

Due to technical nature of IT, it is necessary to justify decisions in terms that are understandable. IT interfaces with most functions, e.g. finance, administration, human resources, etc. (Respondent 19).

The first excerpt confirms the importance of technology as material artefacts mediating task execution in the workplace, while the second gives an example of *institutional conditions of interaction with technology* (Orlikowski, *op cit.*). For the first excerpt, decisions have to be justified because of the institutional material role that the technology plays. Both the institutional and human considerations are the reasons for decision justification in the second excerpt.

GFSIII -Q3

Turning our lens to Courtney's new decision-making paradigm for DSS, the importance of the development of multiple perspectives is evident. It is clear, however, that the O perspective dominates. This is not surprising due to the nature of the question. This means that largely, groups justify decisions because of institutional requirements and norms. There is only one very interesting P perspective, viz.:

For transparency, openness, other opinions and to cover myself. (Respondent 5)

Respondents 2 and 19 as cited above (GFSII-Q3) gave some T perspectives.

Because these perspectives arise from the need for decision justification, we view them as reflecting Justification O perspectives, Justification P perspectives and Justification T perspectives.