



## NAVIGATING THE MAZE: DEVELOPING ETHICAL DECISION MAKING

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Review

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### INTRODUCTION

The notion of *ethics* has been framed in many ways: ‘a code of rules, a set of principles one lives by, or the study of what is right or wrong’ (Bowie & Duska, 1990, p3) and ethics scholars study individual and collective moral awareness, judgement, character and conduct (Petrick & Quinn, 1997:4). *Managerial ethics* is a contemporary issue for management scholars and practitioners because levels of trust in the ethical behaviour of businesses have been shown to be at a low ebb in many countries. Even those firms with robust corporate social responsibility (CSR) strategies have been found ethically wanting, such as banks during and after the financial crisis and BP after its Gulf of Mexico oil spill. In many such organizations the *ethical aspects of managerial decision making* has not always been acknowledged or appreciated (Fisher, Lovell and Valero-Silva, 2013). This may have been due to three key factors: there is not one universal model of business ethics, there is a confusing multiplicity of ways of addressing ethical problems and a lack of management tools to aid decision-making.

*Management tools* are popular artefacts of decision making in organizations (Bechky, 2003; Beunza and Stark, 2004; Orlikowski, 1992; Vaughan, 1999), not least because they are seen to enable quick solutions. However, although managers are familiar with a number of tools for strategic decision making on a variety of issues, such as balancing particular aspects of corporate performance (Kaplan and Norton, 1992), tools to explore the ethical dimensions of corporate decisions are not widely available (Fisher *et al.*, 2013).

The focus of this study is on the theoretical and practical challenges of designing a web-based decision support system as a management tool for ethical decision making by managerial and professional practitioners in their organisational practice. Our motivation for

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3 this study is that, as academics working in a UK business school teaching managerial ethics  
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5 to a range of professionals undertaking part-time, postgraduate studies, we had a need for  
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7 some form of tool to highlight and explore the challenges of making ethical decisions as part  
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9 of organisational practice. However, as we were unable to find one that allowed for the  
10  
11 nuanced nature of ethical decisions, we began to construct an ethical decision support system  
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13 (EDSS), not only to enhance ethics teaching of professionals for their managerial practice,  
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15 but also for wider use as a web-based management tool by those responsible for CSR/ethical  
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17 practice within their organisations. Given the unique nature of our endeavour, and our aim to  
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19 explore both theoretical and practical outcomes from the research, we chose action research  
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21 as the most appropriate research method to evaluate whether the design of the EDSS was fit  
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23 for purpose with respect to: a) the ethical reasoning underpinning it and b) the efficacy of the  
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25 tool itself for managers in their decision-making practices.  
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30 Emerging from the work of Lewin and the Tavistock Institute, AR involves an  
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32 investigation and analysis of professional practices in a sequence of action cycles, undertaken  
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34 jointly by researchers and other stakeholders of the research project. It concerns the  
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36 clarification of an issue or problem(s), the reflexive consideration of experience, learning  
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38 about that experience and linking this learning to general ideas. It is widely used in studying  
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40 information systems and has many forms (Chiasson et al. 2008; Davison et al. 2004), each  
41  
42 with distinct characteristics, but the common aims of AR are to both contribute to scholarly  
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44 (theoretical) knowledge and ameliorate practical, organizational problems (Avison et al.  
45  
46 1999; Eden and Huxham 1996, Susman and Evered, 1978).  
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### 51 **Theoretical and practical aspects of action research in the design of an ethical decision** 52 **support system (EDSS)**

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55 Researchers experience several tensions in their journey through the staged processes of  
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action research, not least these 'dual imperatives' of having to operationalize not only 'a

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3 research imperative to engage in theoretical scholarship with knowledge generation..as an  
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5 outcome' but also ' a practical imperative to ensure a positive outcome' for practice (Davison  
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7 *et al.* 2012, p764). Let us unravel the theoretical and the practical elements.

### 8 9 10 ***Theoretical aspects of action research***

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13 In their attempt to specify the role of theory in action research more precisely, Davison *et al.*,  
14  
15 identified two different types of theory relevant for action research: *focal* and *instrumental*,  
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17 where 'a focal theory provides the intellectual basis for action-oriented change..' and ..'an  
18  
19 instrumental theory is used to explain phenomena (Angeles, 1992), including those processes  
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21 and tools that are used to establish and verify focal theories'(2012, p765 - 766) .  
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### 24 Our focal theory: Framing theory

25  
26 We used framing theory as the focal theory for the intellectual development in this design  
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28 action research study as we constructed a frame set of ethical stances to provide a structure to  
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30 the underlying form of the EDSS web-based tool. At the individual level, *frames* are  
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33 interpretive schemes deriving from individuals' experiences (Bartunek 1993) which enable  
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35 someone to make sense of and interpret (Weick 1995; DiSanza 1993) the complex problems  
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37 and solutions of everyday life (Goffman 1974; Benford and Snow 2000, Chreim, 2006), both  
38  
39 for themselves and for others.

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41  
42 Engagement with relevant frames is essential for managers making decisions because  
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44 frames are both the 'formulations to which they are exposed', as well as the 'interpretations  
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46 that they construct for themselves' (Kahneman and Tversky, 2000, pxiv), thus ensuring that  
47  
48 frames are the 'templates that guide understanding of events' (Chreim, 2006, p1261) across  
49  
50 processes. In our EDSS project *ethical frames* were relevant. We define an *ethical frame* as a  
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53 specific type of frame that draws an association between an ethical stance and an issue that  
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55 carries an evaluative implication; it allows the decision maker to explore the likely  
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57 consequences of a range of different decisions.

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3           *Framing* is the means by which individuals ‘make sense of ambiguous information  
4 from their environments’ (Kaplan, 2008, p729) by utilising the frame as ‘a central organizing  
5 idea or story line that provides meaning’, thus helping to identify ‘the essence of the issue’  
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10 (Gamson and Modigliani, 1987, p. 143 in Brewer and Gross, 2005, p931). For an individual,  
11 then, the framing of a subject is to determine the (personal) meaning of that subject, that is,  
12 ‘to make sense of it, to judge its character and significance and to choose one particular  
13 meaning (or set of meanings) over another’ (Fairhurst and Sarr, 1996: p3).

#### 14           Our instrumental theory: design action research (DAR)

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21 In defining their second AR theory type, Davison et al posit that ‘instrumental theories  
22 include any tools, models, or processes that theorise how work is done or how outcome are  
23 achieved’ and advise that an instrumental theory must be selected for its support of the focal  
24 theory in order to address the research-practice gap [and also] facilitate the diagnosis of  
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research problems, planning of interventions and/or subsequent assessment of the  
organizational impact of the intervention (Davison et al, 2012, p766). In this study, we  
demonstrate how our type of action research is unusual by calling it *design action research*,  
(DAR) providing prescription rather than description about how an IS design process can be  
carried out (Baskerville and Pries-Heje, 2010) because we are focusing on improvement, in  
this case of ethical decision making.

#### 43           **Research questions for the study**

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Action research of any kind comprises a two stage process, with firstly a diagnostic stage  
where the researchers and other stakeholders undertake a collaborative analysis of the  
problem at hand, followed by a ‘therapeutic’ stage involving collaborative change where the  
changes are introduced and the effects studied (Baskerville and Myers, 2004, p330). This  
study only describes the first, diagnostic stage and in this, three research questions inform our  
DAR study:



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3 1. **How can the focal theory of ethics frames be embedded into the design of a web-**  
4 **based ethical decision support system (EDSS)?** Here we identify appropriate ethical  
5  
6 ‘frames’ (Benford and Snow 2000; Goffman 1974) as our focal theories and demonstrate  
7  
8 how they might be used in our DAR study to understand the interpretive schemas used  
9  
10 how they might be used in our DAR study to understand the interpretive schemas used  
11  
12 by managers to enable them to make sense of the complex stimuli of everyday moral  
13  
14 dilemmas and support their ethical decision making in typical scenarios.

15  
16 2. **How can the focal theory of ethics frames be linked to the instrumental theory of**  
17 **design action research (DAR) in the testing of an ethical decision support system**  
18 **(EDSS)?**

19  
20 Ethical decision making is created, connected, amplified and extended through the long-  
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22 term building and accumulation of shared understanding between different organisational  
23  
24 practitioners. Here we draw from Benford and Snow’s (2000) notions of diagnosis,  
25  
26 prognosis and motivation as core framing tasks and present an analysis of research  
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28 material gathered at management development sessions, first with eight senior managers  
29  
30 involved in financial risk in a high profile bank, then with eight ethics coordinators of an  
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32 international oil company where we tested the efficacy of the EDSS by first encouraging  
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34 diagnostic then prognostic framing of a number of managerial ethical decisions.  
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41 3. **What are the lessons of this study for managerial ethical decision making?** Here we  
42  
43 discuss the frames individuals may engage with (and resist) when enacting ethical  
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45 decision making frames and processes. Thus such frames are legitimated or otherwise by  
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47 these practitioners in particular life situations and can impinge on the types of practices  
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49 that they engage in, how they deploy them and the consequences of that deployment.  
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### Contributions of this paper

The *theoretical contribution* of this AR paper is threefold. Firstly, we bring together the fields of framing and decision making by offering engagement with a variety of different ethical frames without imposing a ‘right’ answer, which overcomes some of the problems associated with EDSSs that derive from rational choice assumptions. Secondly, we offer a new form of AR; Design Action Research (DAR). This differs from canonical AR (Davison, Martinsons and Ou, 2012) in part because the generative mechanism for the AR project is not identification and solving a particular managerial problem/issue for a specific organisational client, rather, it is the design of an innovative tool for managers in all organisations. Finally, in relation to instrumental AR theory, we demonstrate how an EDSS can contribute to the field of IS-aided ethical decision making, for in offering alternative ethical frames, without imposing proportionalist notions of right or wrong, it resolves the difficulties that Martin and Parmar (2012:302) identify in the ‘problem-sensing’ aspects of decision making. As they put it; ‘The heavy lifting may be in the framing of an issue, where a problem identified is a problem half-solved (Dewey, 1938/1998)’.

Two *practical contributions* of this study are a) it offers a valid and reliable tool for those who are charged with ensuring that employees are engaging in robust ethical practice and b) it offers managerial practitioners a tool which enables them to explore complex ethical problems both individually and collectively facilitating the development of ethical sensitivity and reasoning (Winstanley and Woodall, 2000) in ethical decision making. The tool is being made available via the internet by the publishers of the text on managerial ethics by (co-author’s name here), to be found at [www.xxxxxx](http://www.xxxxxx) (name of book URL to be inserted here).



### The structure of the paper

In structuring the reporting of this AR study, we have heeded advice to researchers from Baskerville and Myers, that in conducting IS AR it is useful to employ four ‘essential premises’, drawn from the Pragmatist school of philosophy (2004, p333):

- i. **Establish the theoretical purpose of the DAR study.** Our first premise derives from Peirce’s precept that a vital aspect of defining the meaning of intellectual concepts is the consideration of the practical consequences which result from the enactment of that concept and that the ‘sum of these consequences will constitute the entire meaning of the conception (Peirce, c1905, p6). This means that the first section of this DAR study will establish what the *theoretical* purposes are for the subsequent actions. This is to ensure that the subsequent action has not been ‘purposeless, and therefore meaningless’ (Baskerville and Myer, 2004, p333).
- ii. **Situating thinking and acting in DAR research.** Our second premise links to Mead’s precept of socially contextual human action related to human conceptualisation as social reflection. For action research Mead’s pragmatist view means that the processes that make up human social interaction also shape them, and truth, rationality and practical action will lead to practical consequences. With regard to our study, then, in our thinking and acting we had to be organisationally situated in a setting where the problem was inherent and collaboratively work in close relations with organisational actors embedded in the milieu of the problem being considered.
- iii. **Validating theory through purposeful action.** Our third premise draws from James’ argument that pragmatism is a theory of thought and action where theoretically truth comes before action and that we must understand what we are trying to change (William James quoted in Bjorkman 1907). "The pursuance of future ends and the choice of means for their attainment are thus the mark and criterion of the presence of mentality in a

phenomenon" (James 1890, p. 8). This means that, in this study, in order to 'reveal the truth-value of the theoretical concepts underlying the action' (Baskerville and Myer, 2004, p333), we must ensure that we engage in practical action in settings in which the EDSS will be used in order to validate the theory.

- iv. **Learning from the DAR project.** Our fourth premise draws from Dewey's precept of logical inquiry. The 'logical' was enacted by rational thought being melded with action in the pursuit of how people organise and learn at the same time. The notion of 'inquiry' for Dewey meant 'the directed or controlled transformation of an indeterminate situation into a determinately unified one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole (Dewey 1938, p. 104). Reasoning can provide the means for change, but cannot effect the change. Only action, directed by reasoning, can reorder the setting and produce a settled and unified situation.' (Baskerville and Myers, 2004, p303). So, for our study, having identified the theoretical focus, then validated the subsequent empirical/ practical action and adjusting the theory according to the outcome of the practical action, we then consider the learning that has occurred.

In the next four sections we follow these premises, then draw our analysis together in a 'Discussions' section and follow this with 'Conclusions'.

#### **DESIGN ACTION RESEARCH PREMISE ONE: ESTABLISH THE THEORETICAL PREMISE OF THE STUDY**

Our first step was to consider what position we were taking with regard to our focal theory on managerial ethics for this design action research (DAR), that of framing theory. We were concerned that business ethics scholarship still promulgated what we felt was an outmoded notion of 'rational' choice assumptions in ethical decision making, namely that there are 'right' or 'wrong' answers to moral questions (Martin and Parmar, 2012). This 'rational' view



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3 can be found in a number of normative decision-making models which provide a set of  
4 straightforward steps or stages in reaching a solution (Janis, 1968; Schrenck, 1969; and Witte,  
5 1972). The main argument here is that, because there is a dislike of vagueness, uncertainty  
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10 (Louis, 1980) and opaqueness in organisational life, managers tend towards 'bounded  
11 rationality' (March and Olsen, 1976) in their decision making in order to find agreeable  
12 solutions to corporate challenges in short time. Furthermore, because of their desire to make  
13 decisions quickly, practitioners have a tendency to draw upon a limited number of heuristics.  
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17  
18 Heuristics are 'rules of thumb' (Fisher and Lovell, 2009) or 'strategies that ignore  
19 information to make decisions faster, more frugally and/or more accurately than more  
20 complex methods' (Gigerenzer and Gaissmaier, 2011, 453).

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25 However, over time, we have seen alternative modes of decision making (Zey, 1992)  
26 emerging. For example, some have highlighted how emotionality is drawn upon in decision  
27 making (Rogerson, Gottlieb, Handelsman, Knapp and Younggren, 2011) and others have  
28 studied how decision makers draw upon both intuition and other 'tools' to aid in analysis  
29 (Sinclair and Ashkanasy, 2005; Dane and Pratt, 2007; . This has generated arguments about  
30 rational and intuitive decision making not being opposites (Agor, 1986; 1989), rather,  
31 existing on a continuum. Here, decisions oscillate along this continuum and can thus be said  
32 to be 'quasi-rational' (Dhami and Thompson, 2012). Others major on the role of heuristics in  
33 decision making. Kahneman (2003) argues that heuristics *lead* to 'bounded rationality' which  
34 in turn results in satisficing decisions, whilst Gigerenzer (2010) asserts that optimising in  
35 decision making is not possible, rather that heuristics can be used as *guides* to more accurate  
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3 This led us to compose our working definition of one of the concepts in our focal  
4 theory of frames and framing, the ethics frame. We define an ethics frame as a specific type  
5 of frame that draws an association between an ethical stance and an issue that carries an  
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10 evaluative implication; it is not built on the premise that any one ethical position is inherently  
11 'right; or 'wrong'; merely that there are different implications in adopting different stances it  
12 presents. The frame set chosen for our EDSS comprise ten different 'ethics frames', as seen  
13 in figure 2, below. Fisher (2010) informed this choice with his analysis of those corporate  
14 circumstances where intended actions, although profitable, might be ethically wrong or  
15 socially unacceptable. Multiple frames are used in order to counter the tendency for managers  
16 to use only one ethical stance, perhaps that which has worked in the past (Petrick and Quinn,  
17 1997: 55–6, 63):  
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32 The ten ethical frames in the frame set provide managers with robust cognitive resources for  
33 ethical issue identification and analysis, thus enabling potential solutions to be identified. The  
34 aim is that each ethical issue is evaluated against a range of ethics criteria rather than users  
35 comparing options with each other. The frames are placed in three columns, each  
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37  
38 representing an overarching ethical position ('probity', 'ethical character & culture' and  
39 'consequences'). Table 3, below, provides definitions of each pillar and frame in the frame  
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45 set.  
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3 The frames in the middle column are mediates, acting as a balance between the extremes  
4 represented in the two other pillars, with the frames 'Conscience' and 'Legality' seen as  
5 opposites.  
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### 8 9 **Technology choices for web-based tool making**

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11 As the initial intention was to have a web-based EDSS teaching tool for our part-time, post-  
12 graduate students who were experiencing difficulties in understanding how ethics informed  
13 their managerial practice within the workplace the next step was to identify a web authoring  
14 tool (Hot potatoes.net) using Quandary software (Arneil and Holmes, 1999) as it provided the  
15 capability of producing the required 'question maze' functionality. This had the added  
16 advantage that it would also serve our requirements for further developments to expand to an  
17 EDSS as a commercial product for wider use. In each case, it was hoped that, with practice,  
18 the manager can learn what frame to apply from their 'adaptive toolbox' (Gigerenzer *et al*,  
19 2011).  
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32 As a starting point before entering our maze, users need to be clear about the ethical  
33 issue they want to consider and their proposed actions in making a decision for subsequent  
34 action as this enables an early clarification of and subsequent focus on the issue at hand.  
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38 Participants would then connect to the internet and work through a path through the EDSS  
39 consisting of a 'maze' of questions linked to a set of ethics frames.  
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### 42 43 **Routes through the ethical maze to engage with the frame set**

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45 The EDSS provides for a number of routes through the maze for users as they ruminate on  
46 their ethical dilemma, preliminary questions beginning with two possible starting frames,  
47  
48 'Conscience' and 'Legality' (positioned at the top and bottom of the frameset). As the user  
49 progresses through the maze there are a number of filtering questions which guide the  
50 direction of their route, such as whether the starting point is from a 'Conscience' or a  
51 'Legality' frame, whether the emphasis is on stakeholders or shareholders, whether the  
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3 organisation they are working for is public, not-for-profit or private, whether the decision is  
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5 in the short term or long term interest of the organisation and many other filters.  
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### 7 8 *Example of a route through the ethical maze*

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10 The common case of whether or not a bank should sponsor a football team in a country with a  
11  
12 Minister whose reputation may be suspect can be used to illustrate some routes through the  
13  
14 maze and make a judgement about the EDSS's worth. The route through the maze will  
15  
16 initially depend on whether a stakeholder or a shareholder perspective is taken. If a  
17  
18 stakeholder view, then the first decision point will be 'Conscience' and users are asked if  
19  
20 payment would give them a guilty conscience. If 'yes', then the next question will ask  
21  
22 whether the sponsorship will be against any fundamental principle they attempt to live by. If  
23  
24 'no', then this answer would take them from the Pillar of Probity to the Pillar of Consequence  
25  
26 and to the 'Utilitarian' question. They would have to consider whether the proposed  
27  
28 sponsorship would produce an overall balance of pleasure or pain (and not just from the  
29  
30 organisation's perspective).  
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35 Clearly this answer will be dependent on circumstances. If a positive answer is given  
36  
37 then the user is taken to a question on the Pillar of Ethical Character & Culture. In this  
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39 context the user is asked to consider if the dilemma on sponsorship recognises that, even  
40  
41 though a beneficial outcome is expected, there will be losers and whether the plans take into  
42  
43 account harm minimisation. If harm minimisation had been taken into account, then the next  
44  
45 question would be whether the long term interests of the organisation had also been taken  
46  
47 into account. If the response was positive, then, subject to a final check that the proposals  
48  
49 were legal, there would be a recommendation to take the action.  
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53 If the analysis starts from the shareholders' perspective, then a different route would  
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55 be followed. The first question would be whether the proposed action was legal and we can  
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assume 'Yes'. The next question is whether it was in the organisation's short term interests. If

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3 the answer was positive this would take the analysis to the Pillar of Probity and the ‘Do no  
4 harm’ question (‘would serious and direct harm be done to individuals?’). The next question  
5 would be whether there was enough courage to go against the short term interests of the  
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8 organisation and not carry out the sponsorship. If the answer was ‘No’, then the next two  
9  
10 decision points on the maze would ask if any actions could be taken to mitigate these harms  
11  
12 and whether it would be in the interests of the organisation to do so. If ‘yes’ is given to both  
13  
14 questions, then the recommendation would be to make the sponsorship but with extenuative  
15  
16 actions.  
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21 By answering all the questions from their route through the maze, the user will  
22 receive a suggestion about whether or not the action should be taken.  
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### 25 *Measures of confidence in the decision*

26 The EDSS also checks on the level of certainty and confidence of the user(s) when answering  
27 a question because it is possible to give an honest answer but not be confident about it. The  
28  
29 levels of confidence, expressed as percentages, are in relation to: the consequence of actions;  
30  
31 the application of principles and the strength of ethical character exhibited by individuals or  
32  
33 the organisational culture. At the end of their journey users are given a summary of their  
34  
35 position on the issue. This ‘confidence monitor’ is important because if the score is low then  
36  
37 another passage through the maze, perhaps re-considering original answers, is recommended.  
38  
39 If the confidence score is high, then users are urged that they should take full responsibility  
40  
41 for their decision, for the tool is just a support to this. The purpose of the EDSS is to ensure  
42  
43 that the decision has been fully debated and considered, not to make the decision for the user.  
44  
45 The work undertaken in this first stage effectively relates to the first DAR cycle, (shown in  
46  
47 the entirety of the whole research programme in Figure 2, below). We effectively achieved  
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49 our intent which was to ensure that both the frames and the paths through the question maze  
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51 worked before the beta testing process began in DAR cycle two.  
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## DESIGN ACTION RESEARCH PREMISE TWO: SITUATING THINKING AND ACTING (RESEARCH METHODS)

The design of any decision support system (DSS) is a complex endeavour which requires the designers to make careful and continuous ‘reality checks’ as they work through the different development stages. This is vitally important when the focus is on ethical decision making where ‘getting it wrong’ can potentially harm those being affected by such ethical decisions as well as having a risk of negative impact on organisational reputation.

### **Design action research (DAR) for IS-related projects**

Action research has increased in importance for information systems, being classed as ‘a *clinical method* that puts IS researchers in a *helping role* with practitioners’ (Baskerville and Myers, 2004, p329), thus being ‘ideally suited to the study of technology in its human context’. Baskerville and Wood-Harper welcome it as a method because “it is empirical, yet interpretive. It is experimental, yet multivariate. It is observational, yet interventionist” (1996, p.236). As Argyris and Schön (1991) suggest, ‘action research takes its cues – its questions, puzzles, and problems – from the perceptions of practitioners within particular, local practice contexts’ (p.86). The iterative process of issue diagnosis, planning, action taking, evaluation and learning as core activities is highly appropriate for studying software development generally and the EDSS construction in particular. Here, action research helped us to identify the expected development experience required by potential corporate clients and to generate appropriate case studies for consideration in particular to allow the development and evaluation of the EDSS. Findings from action research will invariably have implications beyond the current project and these could inform or improve other situations (Baskerville and Wood-Harper 1996, Reason and Bradbury, 2000, p.1), such as ‘real life’ ethical decision making scenarios.



### Operationalizing Design Action Research

This study occurred in one year (September 2010 to September 2011) with our situated thinking and acting as action researchers taking the form of an iterative and cyclical process comprising an action research spiral (Susman and Evered, 1978) with three cycles occurring as a collaborative and iterative process and none existing in isolation (Thornhill et al. 2000). In figure one, below, we present a model which demonstrates the detailed way in which our research emerged over time.

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Insert Figure 2 Here  
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As previously described, the DAR project began with the aims of identifying how ethical stances can be used to develop a set of frames in the design of the EDSS and to test both the efficacy of these frames in a decision maze and the positive and negative potential of such a tool for users as individuals and groups in both leadership development situations and organisational practice. As we have seen, the first step in the construction of the EDSS was therefore on focal theory, working to collate different ethical stances or 'frames' of reference and we constructed a schema for the initial structure of the different conceptual elements of the EDSS which included nine different ways of framing ethics (see Table 1, above).

After populating the tool with appropriate information to take users through the maze via the questions, a final draft was ready for beta testing. We then began to source suitable case study organisations to begin action research cycle two.

#### *The DAR Case Studies*

We organised one event with eight managers from an international bank at their UK London Headquarters and another with ethics compliance officers of a subsidiary of a major oil company at their offices in the Netherlands. (This latter case study was one of convenience as

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2  
3 we had been contacted by their Ethics Manager who had heard about our research and was  
4  
5 keen to be involved).

6  
7 Each company sponsor chose the sample of managers with the selection based on: a)  
8  
9 interest of the participants in ethics; b) keenness to engage in research on that topic; c)  
10  
11 availability and d) co-location of individuals to the session location. The designer of the  
12  
13 EDSS, [co-author name here], was the presenter of the sessions and [co-author name here]  
14  
15 made notes at each meeting and wrote up commentaries afterwards. Electronic and written  
16  
17 records were also made throughout the research process of the discussions with both  
18  
19 company ethics officers (one was recorded and transcribed) and of all comments made in the  
20  
21 two beta-testing sessions. The third cycle is still continuing and has not been described here.  
22  
23

24  
25 The EDSS is designed for use by *individuals* to explore any managerial ethical issue  
26  
27 which has an impact on the organisation. However, given that a manager's search for  
28  
29 rationality and objectivity through the use of tools is actually a political, symbolic and  
30  
31 socially interactive process (Kaplan and Jarzabkowski, 2006), it was also felt that dialogue  
32  
33 and discussion is paramount, so the next aim of the session was to elicit feedback on the  
34  
35 EDSS which would enable us to refine it to enable a shaping of *collective* debates about the  
36  
37 socially responsible, business ethics aspects of any particular corporate and managerial  
38  
39 decisions being considered. We were therefore seeking feedback from individual managers in  
40  
41 their groups.  
42  
43

44  
45 Each session lasted approximately three hours and was organised by the company  
46  
47 sponsors, both of whom were ethics officers for their organisation. We did not share with the  
48  
49 groups our focal theorising about frames and framing in order maintain the focus on the beta  
50  
51 testing of the tool for ethical decision making in their own domain. However, in order to  
52  
53 ensure that we explored with the groups the entire decision making process, we structured our  
54  
55 data gathering using the notion of *collective frames* (Benford and Snow, 2000) as an  
56





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2  
3 analytical tool to examine the way the participant groups engaged with the EDSS. Collective  
4 action frames are *action-oriented sets of beliefs and meanings that inspire and legitimate the*  
5 *activities and campaigns of an organization* and they have two sets of characteristics. Firstly,  
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10 an action-oriented function constituted by three ‘core framing tasks’ (Snow and Benford  
11 1988, Benford and Snow, 2000; Campbell, 2005; Kaplan, 2008). These core framing tasks  
12 comprise *diagnostic framing* (problem identification and making attributions of causality or  
13 blame); *prognostic framing* (linking a particular diagnosis of a problem with articulations of  
14 proposed solutions or plan of attack and strategies for carrying out the plan) and *motivational*  
15 *framing*. (The second feature of collective action frames comprise *interactive, discursive*  
16 *processes* that attend to these core framing tasks and thus are generative of collective action  
17 frames (Gamson 1992, Benford and Snow, 2000, p 615), but we will only attend to the first  
18 set in this paper. )  
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30 In order to engage with the two groups’ common ethical issues in the sessions, we had  
31 collected 19 case studies of ethical dilemmas commonly experienced in the banking industry  
32 (developed by the Bank for use in ethics management development activities) and confirmed  
33 that the oil company had similar ethical dilemmas. Two of the Bank’s cases (on staff  
34 recruitment/selection and bank sponsorship) were used for discussions during the EDSS  
35 testing sessions. Participants were first provided with a copy of the questionnaire they would  
36 find in the EDSS (see Figure 1, earlier) with the orienting questions: What is the issue you  
37 want to consider? What are the circumstances that require you to make a decision or take  
38 action on this matter? What is the action or decision you are thinking of taking? Why are you  
39 thinking of taking it? Who will it affect and how will it affect them? How are you planning to  
40 do it? and When are you thinking of doing it? These were to assist with diagnostic framing,  
41 i.e. problem identification and making attributions of causality or blame.  
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### **ACTION RESEARCH PREMISE THREE: VALIDATING ETHICAL DECISION MAKING (CASE STUDIES)**

The aim in this section is to demonstrate how we validated the focal ethical decision making theories in the DAR by presenting our analysis of the points raised by the group in relation to diagnostic, prognostic and motivational framing processes during the ‘walk through’ of the EDSS. (Note: (B) relates to a quote from the Bank participants and (O) from the oil company).

The tool was generally found to be ‘accessible, innovative, enlightening and forces consideration of ‘difficult ethical issues’ (B). In table 2, below, responses are mapped and specific design principles identified by participants in both groups for the diagnostic, prognostic and motivational aspects of the tool:

-----  
Insert Table 2 Here  
-----

So, a number of design principles were identified and, the engagement with the ethics frames also enabled new thinking about particular issues of concern in the context of these organisations.

The EDSS was also seen by some as an aid for formal and informal decision making and analysis: ‘The formal, audit and evaluation facility of the tool interests me. In our training we say “two know more than one”’ (O). But others disagreed, ‘It is difficult to see this happening – real decision making is informal and often intuitive. Formal decision making algorithms are rarely used’ (O). Some felt it could be useful to use it at an early stage for quick decision making: ‘Perhaps people might, when they are wrestling privately with an issue, run through the [EDSS] quickly to help them get their thoughts in order’ (B). One saw it being used later, ‘it’s that intermediate stage where you want to test if our gut feel is right in a safe environment to go through the process and clarify the issues’ (O) Another felt it could have value for evaluating historical ethical issues for ‘Policies developed in a different,



1  
2  
3 previous history, e.g. not making political payments.’[O]. Several found that ‘an audit trail  
4  
5 would be very useful’ (O).

6  
7 It emerged that each group felt that the tool met a need for there to be greater  
8  
9 transparency in ethical decision making processes in their organisations: ‘The [EDSS]  
10  
11 enables transparency in decision making’ and ‘It’s an opportunity to say “Why would you do  
12  
13 this?” It’s like saying “Yeah, you can do it but get transparency in what you do’ (B). The  
14  
15 notions of silence and breaking silence also emerged, ‘The [EDSS] provides the opportunity  
16  
17 to ask the silent question. ..We have activities on “is silence breaking organizational rules?”..  
18  
19 there is an expectation that you don’t keep quiet but speak up. In the Far East this is actually a  
20  
21 legal requirement’ (O). ‘I would be interested to know if there is a way to apply this to a  
22  
23 whistle blower’s dilemma?’(O) (Whistleblowers are individual employees with a conscience  
24  
25 wanting to ‘tell’ about ethical misdemeanours and the ethics frame of ‘Virtue’ might be said  
26  
27 to apply in such a circumstance.)  
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29

30  
31 The discussion on breaking silence produced reflexive conversations about the value  
32  
33 of the different ethics frames. However, one banker told us ‘I would question your use of  
34  
35 ‘Courage’ as a frame. I’m not sure there is necessarily a moral aspect there’ (B). When  
36  
37 considering the frames of ‘Utilitarian’ and ‘Decency’, the whistleblowers conversation  
38  
39 expanded to that of whole communities whistle blowing. One said ‘We like to think ethics  
40  
41 has wide applicability although there are different views. The priority of ethical stances is  
42  
43 from the organisational and the family view and we have difficulty in operating in different  
44  
45 geographies’ (O) Whilst a banker told us ‘It is something that can be used to understand  
46  
47 concerns voiced by the community’.  
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50  
51 In summary, the analysis of the DAR has identified a number of lessons for EDSS  
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53 product design. In the next section, we provide a discussion in the form of DAR premise four,  
54  
55 we re-visiting the research questions and providing commentary on our findings.  
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#### **ACTION RESEARCH PREMISE FOUR: LEARNING FROM THE DESIGN ACTION RESEARCH PROJECT (DISCUSSION)**

In our paper we studied managers in the financial and oil sectors learning how to deal with ethical grey areas, for managing these well can be beneficial not just for the stakeholders and shareholders of their own organisation, but also for the sector and society as a whole. Our DAR study provided a number of propositions from the learning stage of each cycle, which illustrated well how an EDSS design is not an unproblematic, 'one-size-fits-all' tool. In this section we bring together the learning from the DAR cycles and identify EDSS design propositions for further consideration.

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Insert Table 3 Here  
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This summary allows us to re-visit the research questions posed at the beginning of the paper:

**RQ1: How can the focal theory of ethics frames be linked to the instrumental theory of design action research (DAR) in the testing of an ethical decision support system (EDSS)?**

The main aim of the sessions with the two groups of practitioners was to test the efficacy of the ethics frames set. The frames diagram is a symbolic representation of information about different ethical stances. It is a specific kind of visual display which is a pictorial yet abstract representation which uses shapes in the form of ellipses that are connected by lines to show particular relationships between different ethical approaches. It is a simplified figure based on a set of rules with an overall shape which [Author 3], the designer, felt could be characterised by clarity, relational patterns and trustworthiness. It proved thus in the beta testing sessions.

As we progressed through the DAR cycles we took Benford and Snow's (2000) recommended analytical device of *collective action frames* as they are 'action-oriented sets of beliefs and meanings that inspire and legitimate the activities and campaigns



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2  
3 of ...[an]...organization'. A number of areas emerged for analysis and consideration and for  
4  
5 those purposes we drew upon the notion of collective action frames. The first core framing  
6  
7 task of *diagnostic framing* involves assessment of the problem and contributes to  
8  
9 practitioners' understanding of a problem (Kaplan, 2008). Our starting point with the tool  
10  
11 was to encourage users to define as precisely as possible the action required or the decision  
12  
13 being considered. The EDSS has inbuilt in the design a selection and prioritising process to  
14  
15 help managers as individuals or in groups to consider the challenges facing them by  
16  
17 presenting a range of ethics frames that they can use to get perspective on the issues, ethically  
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19 interrogate and analyse them.  
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25 As the second core framing task, *prognostic framing* provides for the articulation of, or  
26  
27 planned approach to, the problem as well as providing strategies for addressing the  
28  
29 requirements of the plan. 'In short, it addresses the Leninesque question of what is to be  
30  
31 done, as well as the problems of consensus and action mobilization' (Benford and Snow,  
32  
33 2000, p619). The route choices for managers to travel through the EDSS question maze  
34  
35 enables the prognostic framing task of identifying any potential action to resolve particular  
36  
37 concerns which emerge during the debate, then calibrate the level of confidence and certainty  
38  
39 associated with the managers' analysis of the issue to ensure that the tool is not used  
40  
41 mechanically to arrive at a decision. Using an ethics decision support system of the type  
42  
43 discussed here can provide a means of encouraging open and transparent debate of the ethical  
44  
45 implications of significant managerial decisions but we have to take care of the circumstances  
46  
47 and context of such decision making.  
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51 One difficulty in prognostic framing using the EDSS is that managers do not often get the  
52  
53 opportunity to define—or *frame*—issues in terms of ethical issues. One downside of this for  
54  
55 EDSS developers is that the language of ethics discourse can be difficult to understand (e.g.  
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3 'Utilitarian' and 'Objectivism'). The benefit of having an EDSS is that the very act of  
4 focusing on ethical stances can not only invoke a greater tendency to think about 'right and  
5 'wrong' aspects of decision choices but also engender learning and further curiosity about the  
6  
7  
8 ethics philosophies underlying potential actions.  
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10  
11 Another difficulty is that the EDSS could be used by individuals for their private  
12  
13 deliberations, and groups for their public discussions, and this is an issue for EDSS  
14  
15 developers. Benford and Snow warn against treating frames as psychological concepts such  
16  
17 as 'schema' when the analytical task can be better undertaken by engaging with 'the  
18  
19 interactive, constructionist character' of framing processes which consider 'the outcome of  
20  
21 negotiating shared meaning' (Gamson 1992:111).  
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28 **RQ2: What lessons can be generated for the development of a web-based EDSS during**  
29 **the enactment of an instrumental action research processes?**  
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32 Several lessons emerged for the design of an EDSS over the course of this DAR study.  
33  
34

35  
36 Firstly, an effective EDSS needs to take account of the organisational context and the ethical  
37  
38 decision-making circumstances. As we have seen in the analysis of the DAR material in  
39  
40 section three and in table 3, above, the context in which ethical decisions are made consists of  
41  
42 aspects such as the nature of an issue (such as sponsoring a football team) or perhaps the  
43  
44 level of ethical approval demanded in a particular business environment in order to justify an  
45  
46 action. Some companies are more ethically ambitious than others, seeking to act with  
47  
48 integrity across the enterprise rather than just complying with policies and codes of practice  
49  
50 (although some organisations may have higher standards of evidence required for giving  
51  
52 ethical approval to an action than others). In addition, some might focus primarily on the  
53  
54 requirements of *shareholders*, whereas others may consider the broader needs of  
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3 *stakeholders*. These different contexts influence the ethical tests that need to be applied and  
4  
5 perhaps implies a wider range of evaluations than simply acting ethically or unethically.  
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10 Whether the EDSS is used by the individual or a group, it is designed to take users through  
11 Benford and Snow's (2000) three core framing tasks: *diagnostic*, *prognostic* and *motivational*  
12 *framing*. *Diagnostic framing* involves users in defining the essence of the problem and we  
13 found that the issue of an initial EDSS questionnaire for participants to undertake reflection  
14 on the ethical dilemma and its import to their organisational and IS context (Avgerou and  
15 Madon, 2001, Avgerou *et. al*, 2004) was necessary for their future understanding of the way  
16 the tool worked. *Prognostic framing* involves users in identifying possible solutions to the  
17 problem as it has been previously diagnosed. As EDSS users begin to work through the  
18 prognosis, we found that it is also possible that this acts as a critical lens on the  
19 appropriateness of the diagnosis. Users will therefore need to be encouraged to return to the  
20 beginning and re-configure the problem and begin the journey through the maze again. The  
21 third stage, which is probably undertaken after the tool has been discarded, is that of  
22 *motivation framing*, that is, how the users take the lessons learned from the debates forward  
23 to action.  
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### 41 **RQ3: What are the lessons of this study for managerial ethical decision making?**

42 With regard to the external ethical context, the EDSS was found to be useful for ethical  
43 leadership in decision making for a number of reasons. Firstly, because the ethical, socially  
44 responsible aspect of corporate decisions and actions are coming under greater scrutiny, both  
45 internally and externally by government and the media, with lobby groups and NGOs  
46 becoming more vigilant. Secondly, because these developments make corporate reputation  
47 more vulnerable. Thirdly, because corporate reputation is an important intangible in corporate  
48 performance. Finally, perhaps it is just intrinsically a good thing to try and behave, as a  
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3 corporation, in a just, fair and responsible way.  
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6 Another strength of the EDSS relates to encouraging managers to take time with their  
7 decision making. Eisenhardt argues that the tendency for quick decision strategies has its  
8 dangers (1997, p424). Firstly, a tendency to consider limited information can mean a serious  
9 compromise on choice and, with such little information/analysis to aid their decisions, a  
10 danger of low levels of management confidence. A second strategy is a tendency to veer  
11 away from conflict, not least because debate and argument takes up valuable time. However,  
12 if conflict and argument are repressed does this mean the final decision is a low grade one  
13 rather than high quality, innovative one, which in turn leads to a lack of support for the final  
14 decision if others opinions have been ignored? Finally, Eisenhardt (1997) notes that an  
15 autocratic leadership style can lead to a pressure to make bold decisions rapidly; thus  
16 overlooking issues of risk and also leading to a lack of support for the decision. However, she  
17 advises that this can mean reduced information informing decision choices, reduced support  
18 when decision is made and the person making the choice alone being overwhelmed with the  
19 responsibility.  
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40 Whilst frames assist our understanding of a debate and suggest how we should  
41 evaluate each side of an issue (Beaver, 2006, p4), for a frame to have any effect it must be  
42 heard in the crowded 'marketplace of ideas', then heeded, and understood (Brewer and Gross,  
43 2005). However, exposure to the messages inherent in a frame might not be sufficient for the  
44 frame to be recognised or understood, nor might they be well-received and adopted. For  
45 example, policy communicators can influence the relative weighting of rival values by  
46 emphasizing the importance of one policy goal over another. This strategic framing can result  
47 in a change of opinion about a policy issue without altering an individual's objective beliefs  
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about an issue.

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5 We designed the EDSS as a debating device as well as a tool for an individual  
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7 manager to use in ethical decision making because, as a debating device it can usefully enable  
8  
9 collective engagement with a variety of ethics frames. A lesson for managers here is  
10  
11 therefore, 'When we share our frames with others [which is the process of framing], we  
12  
13 manage meaning because we assert that our interpretations should be taken as real over other  
14  
15 possible interpretations.'(Fairhurst and Sarr, 1996, p3). Therefore the EDSS enables ethical  
16  
17 decision making to be a collective action process which enables reflection on current issues,  
18  
19 raising 'the silent questions' and generating new knowledge and understanding as well as  
20  
21 compliance with organisational codes of ethics.  
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26 Although implicit rather than explicit in the discussions, we posit that ethical decision  
27  
28 making in everyday managerial practice is an emergent, political and heuristic process and is  
29  
30 not one to be constrained by the formal use of any EDSS. Indeed, warnings have been given  
31  
32 elsewhere of the political nature of framing in the form of 'framing contests' (Ryan, 1991),  
33  
34 where different parties use different frames to gain power over other parties in important  
35  
36 strategic decision making (Kaplan, 2008). It is our intention with the EDSS that it is seen as a  
37  
38 strategic tool which can contribute to the development of shared meaning through  
39  
40 conversation rather than provide an answer to a problem. However, we do appreciate that  
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42 strategy tools generally 'are not always used instrumentally to attain an analytic output' (Spee  
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44 & Jarzabkowski 2009; 228) but can surface the different positions that managers take in their  
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46 deliberations over strategies and practices.  
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51 The design of the EDSS takes account of other issues. For example, the danger of  
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53 managers doing 'ethical cherry picking', for there are many different ways of thinking about  
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55 ethical problems and they do not always lead to the same conclusion. For this reason the  
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57 EDSS has questions which are designed to encourage the user to look at the issue from the  
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3 point of view of ten different ethical ways of thinking about a problem and it is based on the  
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5 assumption that decisions are better if thoroughly debated and looked at from several  
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7 perspectives.

## 8 9 **CONCLUSIONS**

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11 There is much more scrutiny nowadays of the rightness or wrongness, fairness or unfairness,  
12  
13 responsibility or irresponsibility of corporate decisions and a number of considerations for  
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15 managers making ethical decisions. In this paper, whilst highlighting the inevitability of  
16  
17 moral uncertainty in organisational life, particularly in fraught economic circumstances, we  
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19 have also demonstrated the importance of addressing such issues carefully and relationally in  
20  
21 order that they are not set aside as irrelevant to the overall health of organisations in their  
22  
23 sector.  
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26  
27 Our paper makes three contributions. Firstly, we add to the framing literature by  
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29 demonstrating the value of engaging in dialogue about issues of interest to managers and their  
30  
31 organisations and thus opening up new opportunities (Bruhn, 2008; 211). Secondly, we add  
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33 to the literature on ethics and IS. Because acceptance of ethical ambiguity is unusual in  
34  
35 organisations, organisational leaders often prefer to present ethical issues as clear cut choices  
36  
37 between right and wrong, and to diminish the perception of moral grey areas between such  
38  
39 extremes. Using frames as heuristics enabled us to formulate what at this stage appears to be  
40  
41 a workable IT EDSS. The third contribution of this paper is to action research in the fields of  
42  
43 IS and ethics. In orchestrating constant revision of the underlying ethics framing for the tool  
44  
45 by several parties (the researchers, the sponsoring company contacts and the consultant), we  
46  
47 were able to clearly identify learning from each research cycle as well as ensuring feedback  
48  
49 was given to all participants at regular intervals over time. This raised awareness of relevant  
50  
51 framing issues for the researchers, enabled reflexivity on their practice for sponsors and  
52  
53 provides lessons for the future in addressing management development in managerial ethics.  
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5 An ethics decision support system containing multiple frames, to a greater or lesser extent  
6 usefully exposes users to values they may otherwise not have encountered or considered. As  
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10 Brewer (2002) and Shah *et al.* (1996) found, it is a valuable endeavour to encourage  
11 participants to describe and evaluate their own views about an issue in our case, managerial  
12 ethics for example). Here, such exposure can ‘simultaneously focus and narrow ...thoughts  
13 about a specific...issue’ (Brewer and Gross, 2005, p12). This supported our choice of  
14 multiple frames for the ethical framework underpinning the design of the question maze in  
15 the EDSS.  
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23 In relation to areas for future research, there are opportunities to explore the ways in  
24 which ethics frames are appropriated in managerial practice and next steps in this study  
25 would be to make a phone or other ‘app’. This would not only make the EDSS more  
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29  
30 accessible, it would also better enable managers to exert control over their ethical decision  
31 making by proposing ‘specific changes to routines’ (Chriem, 2006, p1261), which is valuable  
32 because ‘framing and agenda setting processes within and between professional communities  
33 shape the selection and change in routines in the context of performance improvement efforts’  
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38 (Nigam and Golden, 2009, p3).  
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41 Our final reflection relates to our original focus on the development of the EDSS for  
42 teaching students advanced analytical techniques for choosing among ethical alternatives.  
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44 After this study we want to encourage those teachers with an interest in the use of technology  
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47 in teaching to strengthen *their* IT skills for shaping new teaching alternatives.  
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**Table 1: Definitions of pillars and their associated ethics frames**

<p><b>THE PILLAR OF PROBITY</b> The ethical foundation of probity is deontological, that is, a rule- or obligation-based ethics where the morality of an action is based on that action's adherence to a rule or rules. Has a focus on obligations, responsibilities and considerations of justice and fairness taking precedence, rather than consequences. Maxim of the Golden Rule ('do unto others as you would have them do to you') as an ethical code means that one should treat others as one would like others to treat oneself.</p>	<p><b>THE PILLAR OF ETHICAL CHARACTER AND CULTURE</b> The ethical foundation of this pillar is teleological because it involves looking at the end results of an action. It relates to Immanuel Kant's categorical imperative, to "act only according to that maxim by which you can at the same time will that it should become a universal law" and "act in such a way that you always treat humanity – whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end."</p>	<p><b>THE PILLAR OF CONSEQUENCE</b> The ethical character of individuals or organisations relates to the creation of an intention to act ethically that leads from making a moral judgement and acting upon it. It includes ethical stances such as <i>utilitarianism</i> – the consequences of an action are of paramount importance and discourse ethics, with the maxim 'the greatest good for the greatest number'..</p>
<p><b>Principle.</b> Main question: 'is the proposed action or decision compatible with some universal principle of behaviour such as the categorical imperative or a version of the Golden Rule?'</p>	<p><b>Conscience:</b> the sense of what is right and wrong that governs somebody's thoughts and actions, creating feelings of remorse when an individual acts against his/her moral values. Main question: 'does the proposed action trouble the conscience?'</p>	<p><b>Utilitarian:</b> The greatest happiness of the greatest number is the foundation of morals and legislation. Seeks to assess what the consequences, good or bad, of an action might be within a society overall.</p>
<p><b>Fairness:</b> an action can be seen as unethical if it worsens the lot of particular groups (Rawl's difference principle, 1999, p.00). Asks what impact the proposed action would have on those who are least privileged in society or organisation.</p>	<p><b>Virtue:</b> as a mean between extremes (Aristotle). Honesty, virtues in the form of courage or magnanimity, are central to the questions 'what do we do, how do we intend to act (or not act) on a particular way?'</p>	<p><b>Corporate social responsibility:</b> A company's commitment to act responsibly only requires it to consider the consequences of its own actions and it does not require a balance sheet to be drawn up for society as a whole.</p>
<p><b>Do no harm:</b> (Hippocrates) In the maze only related to direct and significant harm to individuals. <b>Note:</b> In the maze the respondent is asked to consider only direct and significant harm to individuals. At the bottom of the pillar as it is has a more limited intention than the two principles above it.</p>	<p><b>Decency</b> is the honesty, fairness, and the avoidance of coercion or threat so that an organisational survive over the long term (Sternberg, 2000). Not only about conformance with the law but also about acting in a manner that establishes and maintains trust between the company and its stakeholders.</p> <p><b>Legality:</b> relates to whether an action would break a law.</p>	<p><b>Cojunctivist perspective:</b> lowest on the column because only concerned with the self-interest of the organization. In the ethical maze this position has two aspects, short term and long term interests.</p>

**Table 2: EDSS design principles identified from core framing task analysis**

(Note: (B) relates to a quote from Bank participants and (O) from the oil company):

Core framing tasks	Commentary	Lessons for EDSS product design and development
<p><i>Diagnostic framing</i> (problem identification and making attributions of causality or blame)</p>	<p>‘We make decisions every day and are aware that there is a moral part to this sort of thing’ (B). ‘We have lots of corporate processes, due diligence etc., Matters of ethics don’t generally get asked’ (O).</p>	<p>Ethical awareness manifest in daily practice. but low frequency of engagement with ethical dimensions of managerial decisions.</p>
	<p>‘At first I was thrown by the profound interpretation of ethics. I thought it was the usual “shades of grey” toolkit we are looking for. But it’s nice to have a toolkit which is more profound’ (Ethics compliance officer with much experience of different management toolkits at O)</p>	<p>Frames in an EDSS may be profound but this is a refreshing and appreciated change to the norm</p>
	<p>‘Operating in a particular country forces you to consider their way, but you need to be ethical’ (B).</p>	<p>Diagnostic framing takes place in a particular organisational context.</p>
	<p>When utilising the EDSS frame set, counter-framing could map and cause confusion: ‘in [the Bank] we have our core values which are honesty, integrity and respect for people. And we have our business principles and the Bank’s concept of being value-driven and principle-driven and dilemmas and ethics and so on are accorded’ (B).</p>	<p>Frames provided in the tool frameset could be ‘counter-frames’ to frames operating in the business and cause confusion.</p>
<p><i>Prognostic framing</i> (linking a particular diagnosis of a problem with articulations of proposed solutions or plan of attack and strategies for carrying out plan)</p>	<p>The ‘Legality’ frame evoked most discussion. (Not surprising given that the financial services and oil sectors are so highly regulated. ‘We are concerned about the UK Bribery Act and this could be useful as a formal tool for considering our decisions in this area’ ...if you normalise ethical decisions considerations there can be much you can do about it’ (O).</p>	<p>Some ethics frames are more relevant than others in particular organisational sectors or contexts and can therefore evoke more discussion.</p>
	<p>The use of ethics language for frame names was praised, rather than using ‘management speak’ but clarity required, ‘Some of the terms need clarification from a company perspective.[with regard to the frame “Do no harm”] what does “harm” mean?’ (B). ‘I don’t understand some of the terms. What does ‘Utilitarian’ mean? Does it mean what is best for society and does the decision always increase happiness?’ (O).</p>	<p>Ethical language impressive but problematic if the user is not familiar with ethical notions.</p>
<p><i>Motivational framing</i> (the need to develop a rationale for engaging or not engaging in collective activities (i.e. the use of the EDSS).</p>	<p>Participants identified many future uses for the tool: ‘We are an engineering firm, we like tools but we like tools that give us the answer’ (O). ‘It has value in demonstrating a PR commitment to good, ethical, corporate practice’ (B). ‘The EDSS as an auditing tool for applying to different ethical processes. It could be used ... in relation to an organisation’s core values and CSR principles’ (O); ‘We could use it for general scenario training and addressing specific organisational issues. What I particularly like about it is to get people to do a conference call and go through a decision and several people discussing the dilemma. Get people to go back to core values’. [O].</p>	<p>The starting point is that there are no clear solutions. Rather, there are trade-offs and that is why it is a managerial tool.</p> <p>An EDSS has many more uses than designers can identify.</p> <p>An EDSS enables reflection on future uses.</p> <p>An EDSS enables ‘conversations that count’ in ethical decision making.</p>

**Table 3: Summary of the DAR Process on the EDSS project**

Findings	EDSS Design Propositions
Ethical ‘stances’ can be used as frames for constructing ethical decision support systems (References: Stakeholder Theory (Donaldson and Preston, 1995); Interpretive Schemes (Goffman, 1974; Benford and Snow, 2000); Sensegiving (Polyani, 1967; Sensemaking (Weick, 1995)	An EDSS which offer frames derived from a variety of ethical stances enables both sensegiving and sensemaking to the decision making process.
Participants invariably referred to their own organisational circumstances as ‘special’. (Refs: Baskerville and Pries-Heje, 2010)	An EDSS needs to provide meta-level rules to enable decisions making to take account of organisational circumstances and the ethical decision making context.
The use of multiple ethical frames in an EDSS enabled managers to understand that there are choices available for making more reasoned and defensible ethical decisions. Ethical Reasoning & Ethical Sensitivity (Refs: Stanlanley and Woodally, 2000) Interaction Model of Ethical Decision Making (Trevino, 1986)	A contingency approach to designing EDSS is needed to accommodate different organisational contexts and levels of moral development.
Ethical decision support systems tend to have tended to adopt an anti-proportionalist stance (Carroll and Buchholz, 2011; Arjoon, 2008). Thus EDSS developers can usefully design the tool to allow for a number of possible solutions to each ethical decision. (Refs: Ethical Proportionalism (Habermas, 1995) Pragmatism Rorty (1985; Monce, 1997) Interactions Model of Ethical Decision Making in Organisations (Trevino, 1986).	An EDSS derived from an alternative perspective, that moral criteria are seen to be relative not absolute, offers an opportunity to encourage more ethically aware and sensitive decision making.  An ethics decision support system containing multiple frames, to a greater or lesser extent, usefully exposes users to values they may otherwise not have encountered or considered
There were many possible applications identified for the tool: decision tool to provide possible answers; an audit tool for ethical processes; for training and development in ethics; it can be used at the beginning, intermediate and final stages of decision making by individuals or groups; or current and historical analysis.	As ethical decisions are variable in content and scope, an EDSS can enable users to create customised paths through the question maze and have a unique value proposition for each user.
EDSS ethics terms and language impressive but problematic if the user is not familiar with ethical notions.	Exposure to the ethics ideas inherent in a frame may not be sufficient for the frame to be understood.
Opportunities to engage in dialogue about ethical issues crystallises management decision making. Following the construction of tools to support ethical decision making, developers must allow for the processes of dialogue and argument between individuals. (Refs: Discourse Ethics; Protagorean Rhetoric (Billig, 1996).	An EDSS as a debating device can usefully enable collective engagement with ethics frames.
Ethical decision making for practitioners is an emergent, political and heuristic process and cannot be constrained by use of an EDSS.	The production of solutions to decisions explored by using the tool can be legitimated or resisted by practitioners with particular personal agendas.



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Figure 1: Underlying structure of the EDSS: the ethics frame set

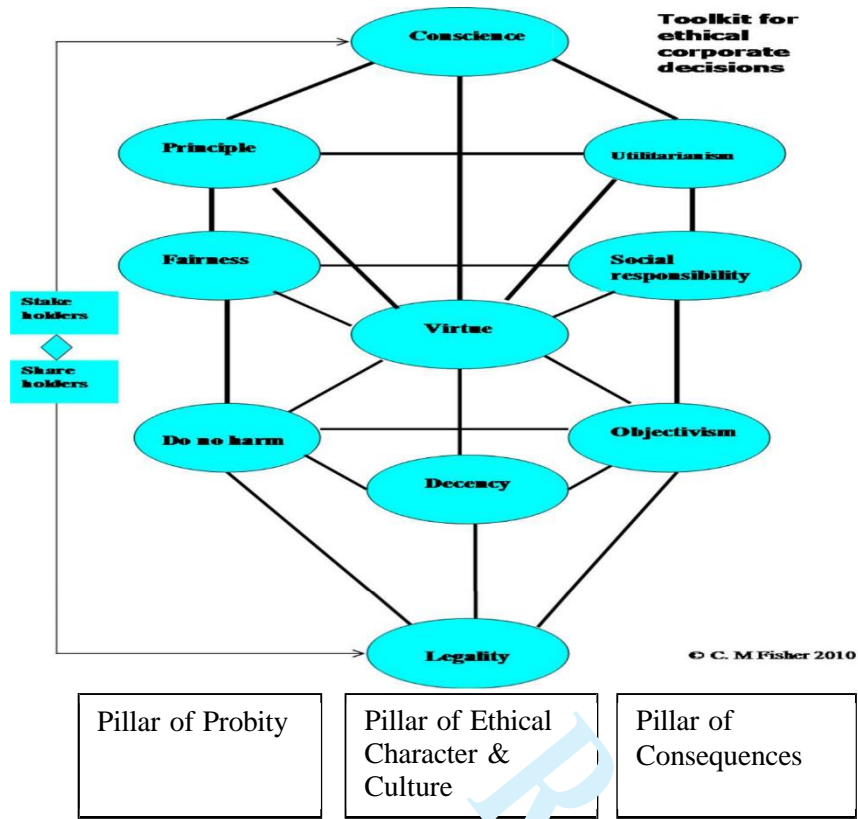
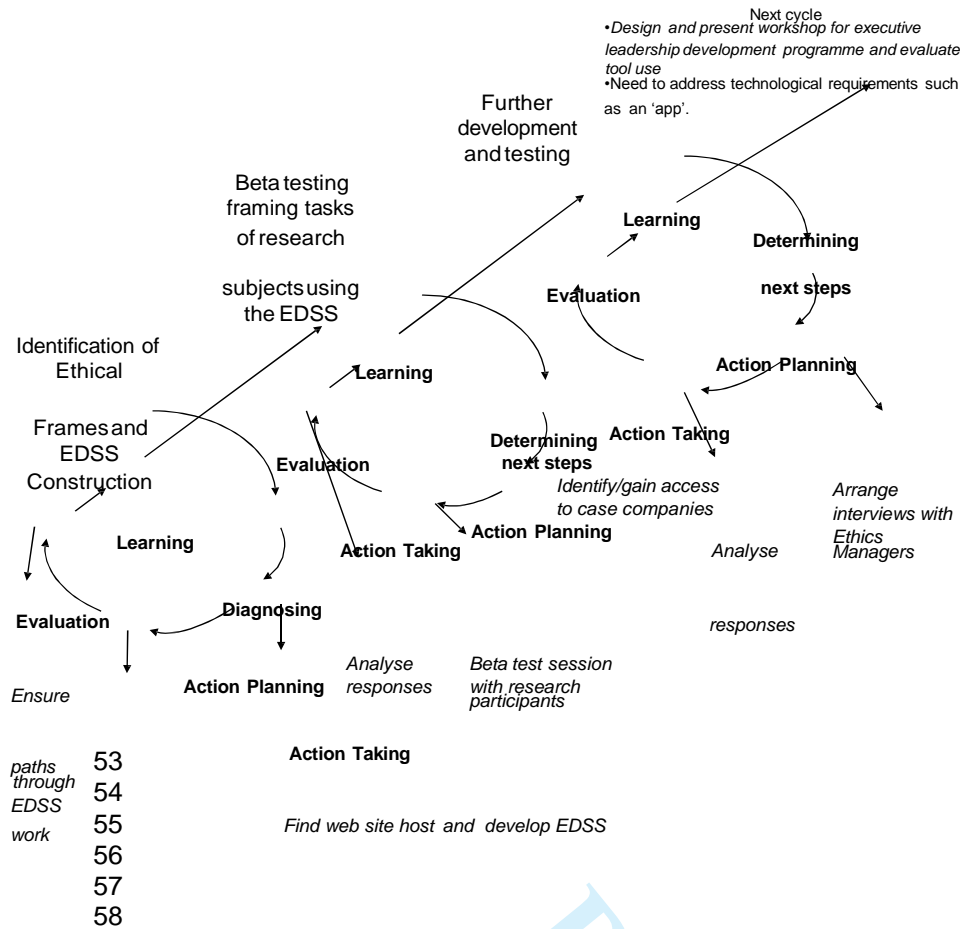


Figure 2. Design action research spiral for developing a web-based EDSS (Source: adapted from Thornhill et al., (2000) and Huang and Martin-Taylor, 2012)



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