

Occam's Razor and organisations – generating a rule-following theory for the existence of organisations.

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Abstract: Rule-following is pervasive in decision-making and coordination. However, an organisation as an order created by rule-following seems inconsistent with the most visible feature of organisations: hierarchy. The purpose of this paper is to propose that this may not be the case. We develop this with the latest research on decision-making and coordination across a number of different disciplines, together with a reinterpretation of certain management writers. We argue that rule-following, rule articulation and discussions on what rule to follow are overlooked aspects of day-to-day activities within organisations, especially in non-routine and innovative situations. A firm, for example, becomes an order created by individuals voluntarily coming together to follow common rules; hierarchy naturally flows from an individual's commitment to learn the rules from a more experienced or knowledgeable person in the firm. Even the most rule-focused insights into organisations have stopped short of this position. However, an entirely rules based theory for organisations would allow us to solve many elements of organisations that are persistent puzzles to the conventional theories – such as 'Barnard's paradox' on the ineffectiveness of 'orders', the rational basis for the resistance to change, the heterogeneity of every individual organisation and the inimitability of organisational advantages and, for example, why the business firm has emerged from the market process.

Keywords: Rules, rule-following, decisions, coordination, knowledge.

Occam's Razor and organisations – generating a rule-following theory for the existence of organisations.

1. The starting point is always a *problem* or a problem situation.
2. *Attempted solutions* then follow. These always consist of theories, and these theories, being *trials*, are very often wrong: they are and always will be hypotheses or conjectures.
3. In Science, too, we learn by *eliminating* our mistakes, by eliminating our false theories.

(Popper, 1999, p. XXX)

[W]hat we call knowledge is primarily a system of rules of action assisted and modified by rules indicating equivalences or differences or various combinations of stimuli.

(Hayek, 1978, p. 41)

The essence of organisations is making decisions; as Weick wrote: 'An organization that makes no decisions is a nonorganization ...' (Weick, 1995, p. 159) Herbert Simon wrote that: '*Administrative Behaviour* was written on the assumption that decision-making processes hold the key to understanding organizations' (Simon, 1947/1997, p. x) or as Daniel Kahneman put it: 'Whatever else it produces, an organization is a factory that manufactures judgments and decisions' (Kahneman, 2011, p. 418).

In *Risk, Uncertainty and Profit*, Frank Knight argued that managers in a business firm make these decisions using processes of 'trained instinct', 'judgment' or 'intuition' (Knight, 1921, pp. 211, 223). We now know that one of the sources of 'instinct' and 'intuition' is rule-following; individuals make decisions despite uncertainty and ignorance by following rules. It is clear that this is also true for

decisions made within organisations (Levinthal, 2011) – organisation decisions are merely the outcome of these individual decisions (Leibenstein, 1960, p. 3).

However, managers in organisations have an additional requirement, their decisions, based on ‘instinct’ and ‘intuition’, must also be coordinated with the decisions of other individuals in the same organisation. Again, we now know that one way to coordinated decisions despite dispersed knowledge is through following common rules (Hayek, 1973, p. 41; Heiner, 1983); this is also true of coordination within the organisations (Grant, 1996; March, 1997).

The knowledge of the individuals within any organisation is incomplete and dispersed (Sautet, 2000; Pongracic, 2009), their actions are subject to hidden biases (Busenitz & Barney, 1997), they act in an environment of constant change, risk and uncertainty (Knight, 1921, p. 211; Foss & Klein, 2012, p. 20) and interactions are often complex, messy and fractious (Watson, 1994, pp. 72, 82). And yet, for example, the business firm remains a model for coordinated action (Galbraith, 1967, p. 34; Coase, 1988, p. 36; Roberts, 2004, p. 283; Arrow, 1974, p. 53; Williamson, 2009). In the larger market order, also a marvel of coordination, these problems also exist and are solved. The obvious difference between the coordination in the market order and within the firm, is the use of the price mechanism in the former and hierarchical ‘orders’ in the latter.

But what if we could simplify this debate, using the latest research and create a theory of the firm using only the mechanisms that are common to both the larger order and within firms? This would obviate the need to create coordination mechanisms that only exist within the firm and drastically simplify our understanding the inner workings of organisations. It may be that this will be a mistake but generating and eliminating this mistake should help improve our understanding of organisations, as generally rule-following as a coordination mechanism within organisations is not well-explored.

The structure of this article is to firstly explain what a rule is and why rules have become so central to coordination and decision-making disciplines. It then moves on to discuss the theories of Mary Parker Follett and her rule-based theories of organisation and organisation hierarchy. The article continues by showing that coordination through rules has been a feature of management theory and practice but relatively neglected. Finally, the article shows how the rule-following perspective of intra-organisational decision-making and coordinating may be useful to explain some persistent puzzles in more conventional theories of, for example, the firm.

What is a rule?

‘If {condition/situation} A, do B’ is a rule (Becker, 2004; Hayek, 1967, p. 56) as is ‘If A, B is forbidden’ (Hayek, 1967, p. 57). The complexity of the rules is somewhat overlooked in the simplicity of each individual rule; if A do B but if A₁ do B₁ or if A₂ then do B₂. This can often require quite subtle thinking to discover the correct situation, the correct rule or priorities of rules and to articulate the rule or the consequent action. As Simon has pointed out, creativity is also facilitated by the fact that a rule may allow for a set of actions (if A₁, do B_{1 to x}), not just one particular action (Simon, 1947/1997, p. 114). Gary Klein gives the example of the crew of a plane with three engines, one has been shut-down and a second was showing low-oil pressure. Shutting down the second engine would have left the plane flyable but dangerously underpowered and running the engine as normal could have destroyed it; one of the crew came up with a creative solution of leaving it on but in stand-by mode (Klein, 1998, p. 234). All three solutions were within the range of possible rules but the creative option was immediately seized on by all the crew.

Much discussion on rules in organisational studies has focused on rules in routine situations (Nelson & Winter, 1982; Becker, 2004; Cyert & March, 1963, p. 104); thus ‘rules’ and ‘rigidity’ have become almost synonymous. Max Weber in his writings about bureaucracy, and the rules that bureaucrats followed, wrote about the ‘regular’, ‘stable’, ‘methodical’ characteristics of the modern bureaucracy (Weber, 1968, p. 956). Despite, as Loasby put it, the ‘tendency for authors to slide between “rules” and “routines”’ (Loasby, 2000), rules do guide decisions in non-routine, novel or uncertain situations (Gigerenzer & Gaissmaier, 2011; Gigerenzer, 2007; Klein, 2009; Klein, 1998; March, 1997). This was a point also noted by Herbert A Simon: rules are no ‘barrier to flexibility as new situations and new facts are discovered.’ (Simon, 1947/1997, p. 127) This is a critically important point for this whole area; it appears that one of the main reasons that rules are underprivileged as coordination and decision mechanisms is this association with the mere routine and with rigidity.

This definition of a rule (if A, then do B) may also clarify the use of certain terms that may otherwise cause confusion. For example, Welch and Leahy use the word ‘values’ (Welch & Byrne, 2001, p. 447; Leahy, 2012, p. 112), Kahneman (Kahneman, 2011) uses the words or phrases ‘rules’ (p. 307), ‘simple rules’ (p. 305), ‘heuristics’, a ‘simple procedure’, a ‘mental shotgun’ (pp. 98, 99) and ‘standard operating procedures’ (p. 204). As is clear from Kahneman’s examples in all of these situations are rules – if A, then do B. In this article we will try to stick to the word ‘rule’.

One distinction that will be made in this paper is between an objective, target or goal and a rule. All rules prescribe or constrain action; as does an objective (or its synonyms, ‘target’ or ‘goal’), a particular type of rule. But an objective (as with a command (Hayek, 1976, p. 14)) necessarily aims towards a concrete foreseeable result; that is not necessary for all rules – a rule can merely prescribe or forbid what actions are allowable, the ultimate result need not be foreseen (Hayek, 1976, p. 14). A rule can result in a level of abstractness that is not achievable by an objective, as an objective must always be aimed at a foreseeable result. A reasonably abstract and not uncommon rule within an

organisation might be something like: 'If a hinge is broken it should not be left broken'. A reasonably common target might be: 'If a hinge is broken it must be repaired within 24 hours'. The first requires initiative and a flexible range of solutions are open (everything from permanently removing an unsuitable door to an immediate patch of the hinge); the latter has limited flexibility and a pre-defined concrete result.

Why are rules and rule-following important?

Complexity theory shows how, even in a complex or chaotic environment, with no leaders or external factors, order can emerge naturally from independent agents following common rules; the classic example being Reynolds's flocking 'boids' (Reynolds, 1987; Miller, 2010, p. 174). This has been applied to organisational thinking (Burnes, 2005; Hock, 2005, p. 281; Lewin & Regine, 2000, pp. 26, 32). The organisational literature resulting has seen its ideas in conflict, in theory and in practice, with existing hierarchical management processes (see, for example, (Wheatley, 1999, p. 47; Stacey, 1996a, p. 469)). This may change with the latest research on naturally occurring leadership in coordinated behaviour in animals (see next paragraph).

Rules are the foundation of coordinated behaviour in animals (Miller, 2010, p. 175). Importantly, for the purposes of this article, the latest research shows that flocking and herding rules include taking cues from 'leaders' and decision-makers, such as more experienced homing pigeons (Flack, Pettit, Freeman, Guilford, & Biro, 2012). Recent work on flocking pigeons has resulted in the observation that: 'we found that stable, hierarchical pattern of in-flight leadership does not build upon the stable hierarchical social dominance structure evident in the same birds. Instead, in the case of pigeon flocks, the emergence of leadership and dominance hierarchies are each affected by different factors. By ignoring social dominance when in flight, flocks of pigeons potentially make better navigational decisions because leadership can emerge from relevant attributes, such as local experience and route fidelity' (Nagy, Vásárhelyi, Pettit, Roberts-Mariani, Vicsek, & Biro, 2013). As we will see, this

observation of pigeons can be seen as an uncannily accurate restatement of the theories of Mary Parker Follett in relation to behaviour in organisations.

It has been long-clear to students of human behaviour that coordination can be created by individuals following common rules.¹ Hume wrote: ‘We may only learn from the necessity of rules, wherever men have intercourse with each other’ (Hume, 1751, p. 38). More recent work by researchers has given us greater visibility into not just the coordination rules that are more visible as part of human culture (Fox, 2004) but the very tacit rules we follow when, for example, passing each other in the street (Hume, 1751, p. 38) or moving as part of a crowd (Kretz, Grunebohm, Kaufman, Mazur, & Schreckenberg, 2006; Moussaid, Helbing, & Theraulaz, 2011) or in synchronised movement (Kirsh, Muntanyola, Jao, Lew, & Sugihara, 2009). Voluntary commitment to common rules helps communities coordinate activities for long-lived sustainable common-pool resources so that there is no ‘tragedy of the commons’ (Ostrom E. , 1990; Ostrom, Gardner, & Walker, 1994; Ellickson, 1991).

The third stream of literature on rule-following is the heuristics and behavioural economics field; we now know that individuals make judgements and decisions not by elaborately generating and ranking options, or by merely following the price mechanism, but by following rules (Kahneman, 2011, p. 296). Kahneman’s 2011 bestseller, *Thinking, Fast and Slow*, shows the extent of the influence of this new field (Kahneman, 2011) and is a useful review of the most up to date thinking in the area and some of the foundational literature (also see (Kahneman, Slovic, & Tversky, 1982)

Unfortunately, much of the literature has focused on when intuition leads us astray (including when making strategic decisions within organisations (Maule & Hodgkinson, 2002)). This underestimates the power of naturalistic rule-based decision-making (Klein, 1998; Klein, 2009; Gigerenzer, 2007). As Gigerenzer and Gaissmaier (2011) put it: ‘heuristics can often be more accurate than complex “rational” strategies’(see also (Cosmides & Tooby, 1994)). Further, to repeat, there are coordination benefits of individuals following common rules (perhaps even where the rules or resulting decisions are suboptimal (Heath & Staudenmayer, 2000; Simon, 1947/1997, pp. 116, 190)).

That rule-following allows for fast decision-making and that these quick decisions can be useful is a new development. For example, Kenneth Arrow wrote in 1974: 'for all organizations: authority is needed to achieve ... coordination...' (Arrow, 1974, p. 68). He continued: 'Impersonal rules cannot be adequately responsive to the large variety of possible events' and 'the flood of information' (p. 74). Instead authority has too many advantages: 'The purest exemplar of the value of authority is the military... Under conditions of widely dispersed information and the need for speed in decisions, authoritative control at the tactical level is essential for success' (p. 69). Arrow argued that putting in place rules for every eventuality is 'highly costly'. He concluded: 'It follows that the idea of shifting from discretionary authority to rules is not the panacea it is sometimes alleged to be, particularly in the realm of economic policy' (Arrow, 1974, p. 74). This is a point repeated most recently by Foss and Klein (2012, p. 216).

But we now know that rules can act in the exact opposite way: it is by following rules, usually that are not and do not need to be articulated anywhere, that all individuals can make decisions (Gigerenzer, 2007, p. 18) and coordinate their decisions (Hayek, 1973, p. 13) despite limited information. We also note the speed with which rule-following acts as opposed to the time that it takes to articulate and communicate a 'command' (the almost instant changes in direction of a flock of birds or a shoal of fish being the classic example (Miller, 2010, p. 160)).

Thus rules are important as they help us make decisions quickly, with limited information, often with superior outcomes to more rational techniques, but also in a way that can be coordinated with others following similar rules.

Rule-following is consistent with hierarchy.

The, often unstated², key feature of organisations is hierarchy (Williamson, 2009; Roberts, 2004) and the giving of orders and commands. When Coase came to describe the distinction between market coordination and the inner workings of the firm he came up with the obvious example of an employee moving from department Y to department X ‘because he is ordered to do so’ (Coase, 1988, p. 35). This pervasiveness of ‘orders’ or ‘commands’ within organisations is so common as to defy contradiction.

However, one management theorist stands out for her focus on rules and the interaction of rules and hierarchy. In her collected papers, *Dynamic Administration* (Follett, 1941), Mary Parker Follett explained that power and authority within organisations are merely convenient explanations for individuals in an organisation obeying ‘the law of the situation’; following rules appropriate for specific situations. She wrote: ‘One person should not give orders to another person, but both should agree to take their orders from the situation. If orders are simply part of the situation, the question of someone giving and someone receiving does not come up. Both accept the orders given by the situation. Employers accept the orders given by the situation; employees accept the orders given by the situation.’ (Follett, 1941, p. 59) There is no authority, no ‘orders’, in a firm; instead there is a search for information at every level in the firm, for ‘facts’ (Follett, 1941, p. 105) ‘to unite all concerned in a study of the situation, to discover the law of the situation and obey that... The head of the sales department does not give orders to the head of the production department, or vice versa. Each studies the market and the final decision is made as the market demands. This is, ideally, what should take place between foremen and rank and file, between any head and his subordinates.’ (Follett, 1941, pp. 58, 59) ‘I may say to an employee, “Do so and so,” but I should say it only because we have both agreed, openly or tacitly, that that which I am ordering done is the best thing to be done. The order is then a symbol’ (Follett, 1941, p. 65). Follett also emphasised the fact that rules can guide actions in a changing and uncertain future in the way that commands or instructions based on achieving certain objectives cannot: ‘If the situation is never stationary, then the order should

never be stationary... How is the order to keep up with the situation? External orders never can, only those drawn freshly from the situation' (Follett, 1941, p. 65).

This allowed her to redefine leadership and hierarchy in a completely different way to the conventional view: 'The leader gets an order followed first, because men do really want to do things in the right way and he can show them that way, and secondly, because he too is obeying' (Follett, 1941, p. 276).³ Seeing an order as a symbol means that whoever knows or identifies the correct rules can be seen as giving the 'order' – Follett turns hierarchy on its head and into context and knowledge dependent leadership: 'The dispatch clerk can give "orders" even to the superintendent' (Follett, 1941, p. 277).

If we can summarise Follett, we can see that the difference between a command ('Do B') and a rule is somewhat confused by the fact that many instructions that individuals consider to be commands, 'repair this hinge' (an example from Simon (Simon, 1991)), may be merely the articulation of a rule. And so Simon's example, 'repair this hinge', can be rearticulated as a rule, ('If a hinge is broken, repair it') and a piece of information ('This hinge is broken'). Coase's example of a command (Coase, 1988, p. 35), an employee moving from department Y to department X 'because he is ordered to do so', can also be reinterpreted as a rule: if Dept X is quiet then move to Dept Y (see (Walsh, 2009; Walsh, 2010; Schlicht, 1998, p. 222)). So what we see as a command hierarchy, Follett sees as an order created by rule-following individuals – but there is a natural hierarchy emerging from the division of labour and knowledge within an organisation. Usually, the 'superintendent' has the superior knowledge and so the hierarchy appears to have him or her at its apex but sometimes the despatch clerk has the relevant information or knows the right rule to apply and so, if only fleetingly, he or she gives orders to the superintendent. This flows naturally from the rule-following perspective but is puzzling and so has been ignored in the conventional view of organisations.

Use of rules in practical hierarchical situations:

It is not clear if Follett had any particular situation in mind when she wrote about the ‘law of the situation’, but there was in fact an example available to her of a practitioner using rules as an articulated coordination strategy in just such a non-stationary and open-ended process. When Henry Ford started the process of creating his ‘universal car’ he was trying to coordinate the activities of a number of individuals but without being able to articulate any concrete objective: ‘The plan which I then had in the back of my head but to which were then [1904] not sufficiently advanced to give expression, was that, when a model was settled on then every improvement on that model would be interchangeable with the old model, so that a car would never go out of date....’ (Ford & Crowther, 1923, pp. 56, 57). But even at that early stage Ford could articulate clear rules, from which the design of his car, he hoped but could not be sure, would emerge:

‘The universal car had to have these attributes:

- (1) Quality in material to give service in use....
- (2) Simplicity in operation – because the masses are not mechanics.
- (3) Power in sufficient quantity.
- (4) Absolute reliability...
- (5) Lightness.....
- (6) Control “Anybody can drive a Ford”

The design which I settled upon was called “Model T”.’

(Ford & Crowther, 1923, p. 68).

Chester Barnard also dealt with rules, including unwritten rules; this is reflected in his emphasis on consistency in management (Barnard C. , 1938, p. 276). This may also be reflected in what we can call Barnard’s paradox: ‘It is surprising how much that in theory is authoritative, in the best of organizations lacks authority – or, in plain language, how generally orders are disobeyed’ (Barnard C.

, 1938, pp. 162, 163). How can there be coordination when orders are disobeyed, when ‘...obvious disobedience [is] carefully disregarded’ (p. 162)? Barnard then resolves this paradox by recourse to rules, the requirement of consistency and, like Follett, the acceptance by the individual that this course of action is the right thing to be done and, conversely, the expectation that the rule will not be followed if these conditions are not in place. Therefore, disobeying orders does not result in discoordination because disobedience in these circumstances results in no failure of expectations.

Barnard’s emphasis on consistency has been echoed elsewhere; usually in terms of precedent and consistency (Schlicht, 2008). In particular a number of writers have referred to the ‘common law’ traditions within firms and the ‘judicial’ role of management (Barnard (1938, p. 279), Penrose (1959 [1995], p. 16), Follett (1941, p. 52) and Jensen and Meckling (1995) (see also (Hayek, 1973, p. 120)).

These limits on the powers of managers were supported by a series of practical observational studies of what managers actually did. This stream of literature has still not been fully absorbed (Tengblad, 2012a, p. 39). Starting, largely, with Sune Carlson’s work (Carlson, 1951; Tengblad, 2012b) with, what are now called, CEOs and working through an eclectic mix of research programmes, the overall conclusion was that at all levels managers were not the ‘conductors of an orchestra’ but more like ‘puppets’ (Carlson, 1951, p. 46). In this literature we can see, managers struggling with precedents (Dalton, 1959, p. 235; Carlson, 1951, p. 35), with making difficult decision quickly based on facts given to them (Dalton, 1959, p. 171; Stewart, 1967, p. 60), and all the time engaged in intensive communication (Stewart, 1967, p. 51 ff; Carlson, 1951, p. 79). These works should have effectively falsified the theory of leaders within firms as being at the pinnacle of a command hierarchy (Tengblad, 2012a); they are, however, consistent with leaders as rule-discoverers, articulators, arbiters and as rule-followers.

One of these early very detailed studies of managers in daily practice showed the pervasiveness and usefulness of rule-following as a decision-making and coordinating tool in a non-routine, unique, situation. A team that included Cyert and Simon looked at the decision to computerise the accounting processes in a firm in the early 1950 (Cyert, Simon, & Trow, 1959). This was, obviously, the first time this firm had made such a decision. It was clear from the study that the rational choice model was not used. Instead the executive running the decision process followed rules: rules about obtaining information, communicating it, engaging assistance, obtaining competitive bids for the equipment and support and so on. The decision was dragged out over months but only enough information was gathered to discover 'satisfactory' alternatives. For example, the executive initially only obtained one quote for consultancy support. It was decided that this was not enough but he was asked to get just one more. The most intensively discussed aspect of the decision was to opt for a centralised system, as this was inconsistent with the normal rule in the company that information be decentralised. This apparent exception to the general rule was rationalised on the basis that it was not actually in conflict with the general rule – responsibility and authority would remain decentralised and the centralised accounting system would provide the requisite information to the local teams. Even still resistance was expected.

The usefulness of rules in coordinating behaviour generally (Heiner, 1983) and specifically within firms (Grant, 1996) has been noticed in the literature (see, for example, (Zhou, 1993; Zhou, 1997; Dane & Pratt, 2007; Teece, 2008; Kogut, 2000). Given Hayek's interest in rules, Austrian theorists of the firm also focused on rule-following (Langlois, 1995; Pongracic, 2009, p. 48; Sautet, 2000, p. 99) and, in particular, two parallel articles by Ioannides (2003a; 2003b), as did practical managers influenced by Hayek (Koch, 2007). So too did other writers, who now revisited earlier work to discuss rule-following in more detail: (Simon, 1991; March, 1997; Jensen & Meckling, 1995).

Finally, practical research into actual company strategies noted strategic articulation in terms of rules, suitable for however events unfolded (Bingham & Haleblan, 2012; Eisenhardt & Sull, 2001; Bingham & Eisenhardt, 2011; Bingham, Eisenhardt, & Furr, 2011). As has the current management focus on culture, norms of behaviour and on 'values'. For example, Terry Leahy in his recent book emphasised the importance of 'values': 'They govern how a business behaves, what it sees as important, what it does when faced with a problem – everything from how it handles the need to cut costs to what a shop assistant does when asked by a customer "Where's the ketchup"' (Leahy, 2012, p. 112). It is perhaps then not surprising that Leahy would have affinity with another manager that relied on rules and he uses a long quote from Henry Ford, where Ford elaborated on the consequences of the 'simple' rule (quoted above) as Ford grappled with the process of developing the Model T (Leahy, 2012, p. 226; Ford & Crowther, 1923, p. 69). Leahy asked: 'Given all that, it is odd that analysts and boffins who pore over companies' performance do not pay more attention to corporate values' (Leahy, 2012, p. 112).

Discussion of the implications of rule-following as a coordination mechanism.

Arguing that rule-following is a central decision-making and coordination mechanism within organisations, as an under-explored perspective, must throw up under-explored challenges and opportunities for researchers. Theorists and practitioners are still not clear what is going on within organisations; there is still a startling gulf between what managers do in theory and what they actually do (Tengblad, 2012a, p. 4). Of particular relevance to this article, when a superior talks to a subordinate, what is being articulated - a command, an order, an objective, a situation, a rule? Firms, for example, remain marvels of coordination but it is clear that the basis for that coordination has been, to some extent, tacit. Managers have known how to coordinate through rule-following even where they did not know that in an articulable way – they knew more than they could say (Tengblad, 2012a, p. 5; Polanyi, 1958/1962, p. 53; Barnard C. I., 1952, p. ix).

If we look again at organisations through this lens, we can see more clearly what goes on within organisations and gain insight into particular puzzles:

- There can be no coordination, no consistency, no learning and no communication of knowledge with a command or an order. A command requires a foreseeable outcome. Nobody could tell the difference between a fumbling attempt to articulate a rule coupled with the communication of information ('repair that hinge') and a command ('repair that hinge') (Brady & Walsh, 2008). Therefore, where command and rules are mixed, it could never be clear whether any individual instruction was a command or a rule – coordination would be impossible (Ioannides, 2003b). The literature is clear that rules and command coexist within organisations – if that is the case why is that distinction never made in practice? It would seem essential that any superior would explain whether every instruction is a command and once-off or a rule to apply in all similar future situations? Blinded by the barked 'Do B!' have we fundamentally misunderstood organisations?
- Further, we saw that 'commands' are frequently disobeyed or ignored. Again, by using the rule-following lens, we can see why this does not result in a loss of coordination, instead following the rule and ignoring the concrete instruction allows for coordination. The facts have changed, or the superior was not aware of certain information, decisions follow that are consistent and coordinated even though (or, more accurately, because) the 'command' is ignored.
- One obvious implication of this focus on the rules within organisations is in the management of change (Follett, 1941, p. 52). The conventional view takes a negative stance towards employees that are reluctant to change; 'threatened self-interest', 'fear of uncertainty' (Griffin, 2005, pp. 409, 410), feelings of anxiety and 'blind resistance' (Burke, 2002, pp. 92,

93). However, the rule-following perspective would show that these are merely negative symptoms of the positive problem of employees trying to retain coordination. The rules in every organisation are the reflection of the knowledge, tacit or articulated, and experience, often bitter experience, of its members (Becker, 2004; Witt, 2011). There may be a coordination cost to any change process that is not widely recognised; there may be a coordination reason why employees will resist changes to the rules – if some are following the old rules and some the new rules or there is confusion about which rules will be followed, coordination will be lost (Schlicht, 2008). Managers can influence the change process, it is never merely emergent; although this is a tremendously effortful task for managers (see for example Welch (Welch & Byrne, 2001, p. 393), Sloan (Stewart, 1963, p. 165) and Terry Leahy (Leahy, 2012, p. 118) on the perseverance required). If we see leaders trying to articulate, communicate and secure the commitment of colleagues to following new rules and engaging in new forms of coordination, we can see why they are willing to make this effort. If intra-firm leadership was merely a matter of command (Do B), it is impossible to understand.

- It also allows us to understand more clearly why organisations are impossible to completely imitate. You are not just imitating an organisational structure or strategy or articulated instructions but trying to imitate a social structure (Schlicht, 1998, p. 207), a body of rules never fully articulated and which reveals itself one rule at a time as new situations and new problems emerge. It would be impossible to articulate all the rules of such a structure, let alone recreate them (Hayek, 1978, p. 30).
- Finally, would the rule-following perspective help us develop a different rationale why, for example, business firms have emerged from the market process? As Hayek pointed out, there *is* a problem with the extended market order: the rules of the extended order must be common throughout and those rules must be ‘of a somewhat smaller content than one applied to a small group’ (Hayek, 1976, p. 89). If individuals make decisions by following rules, and

groups of individuals make coordinated decisions by following common rules, then an extended market order based on common attenuated rules restricts the set of possible different decisions that can be made and thus restricts the range of solutions available (Casson, 1995, p. 89). Firms, each with their own individual body of rules, different rules from each other and from the rules in the larger market order, can be seen as the solution to this problem. In this light we can see the firm, first coming to prominence as large-scale markets developed in the 19th century (Chandler, 1977, p. 498) as the market throwing up its own solution to the problem-solving problem created by common attenuated rules across an extended market order (Walsh, 2009). This rationale for firms existing generally (even if not for a specific firm) is not fundamentally changed by, for example, technological changes and though the ability to manipulate and use information within a firm is transformed, fundamentally that reliance on the coordinating power and unique problem-solving abilities of the unique rules in each individual firm remains.

Conclusion:

Coase saw the firm as an alternative to the 'price mechanism'. He wrote in his 1937 article: 'If a workman moves from department Y to department X, he does not go because of a change in relative prices, but because he is ordered to do so... It can, I think, be assumed that the distinguishing mark of the firm is the supersession of the price mechanism.' But at some stage the cost of organising an ever larger firm will eventually be superseded by the price mechanism again. This allowed him to make one clear prediction: 'Changes like the telephone and the telegraph, which tend to reduce the cost of organizing spatially, will tend to increase the size of the firm. All changes which improve managerial technique will tend to increase the size of the firm' (Coase, 1988, pp. 35, 36 and 46). It may be that changes to transaction costs and changes to managers' ability to organise have largely cancelled each other out through the technological revolution of the past 20 years but there is also an alternative explanation.

It is now clearer that the price mechanism is only one part, and sometimes not the most important part (Kahneman, 2011, p. 289ff), of the larger market order; the price system is embedded in a rule-based spontaneous order. Understanding this, we can see the limits of what Coase wrote in 1988: ‘I showed in “The Nature of the Firm” that, in the absence of transaction costs, there is no basis for the existence of the firm’ (Coase, 1988, p. 14). We can see a rule-based theory of the firm that moves beyond mere prices and costs and takes into account our larger understanding of rule-following in our decision and coordinated activities; firms are not spontaneous orders in the pure sense but they do, as has been suggested, ‘emulate in some degree a spontaneous order’ (Langlois, 1995).

Hierarchy is the most visible feature of organisations and is common to all; hierarchy is not inconsistent with organisations being coordinated *solely* by rule-following. We have shown that rule-following is not a new concept but has a history in management theory and practice. Finally, the article demonstrated, as examples, that the rule-following perspective can be used to add additional dimensions to and opportunities for further research in conventional theories on decision-making, coordination, change management in and theories of the firm. Conversely, it has pointed out that any research into organisations must address, even to dismiss, this explanation for organisations.

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¹ FA Hayek had pointed out that socialist planning was impossible given the dispersed nature of knowledge, its constant change and the uncertainty and ignorance that clouded all economic decisions (Hayek F. A., 1948, p. 33ff). Instead, Hayek, in his later work, argued that despite change, uncertainty and ignorance a market order could exist because participants in that order followed common rules of behaviour; the market was a spontaneous order unintentionally created by individuals each using their own knowledge, however limited, following common rules, to further their own ends (Hayek F. A., 1973, p. 41ff). Hayek, with his focus on local knowledge, complexity (Hayek F. A., 1967, p. 22), coordination and rule-following in nature (Hayek F. A., 1973, pp. 39, 40), with animals (Hayek F. A., 1967, p. 51) and among people (Hayek F. A., 1973, p. 11) must be seen as a somewhat neglected precursor to much of the literature on complexity, coordination and rule-following (Caldwell, 2004, p. 362; Stacey, 1996b, p. 200) and intuition (Gigerenzer, 2007, p. 239).

² The literature generally implies that managers can make any decisions, that managers have the ability to issue any command they wish – ‘Do B’. However, Barnard equated inconsistency with incompetence (Barnard, 1938, p. 276), Simon noted that every executive makes his decisions with ‘one eye on the matter at hand and one eye on the effect of this decision upon the future pattern...’ (Simon, 1947/1997, p. 19). A command that has to be consistent with previous commands or with an eye on the future pattern is a rule and not a command. Even a dictator like Napoleon denied he had the power to issue any order: ‘All great captains have done great things only by conforming to the rules and natural principles of the art; by the wisdom of their combinations... They have succeeded only by thus conforming’ (Gat, 2001, p. 136). The impossibility of consistency and achieving pre-ordained objectives is rarely discussed (Kydland & Prescott, 1977) in fact, another soldier, Oliver Cromwell said ‘a man never mounts higher, than when he knows not whither he is going’

³ This mirrors some of the latest social psychology literature on the nature of power and authority: (Turner, *Explaining the Nature of Power: A Three-process Theory*, 2005; Turner, *Tyranny, freedom and social structure: Escaping our theoretical prisons*, 2006). See also (Alchian & Demsetz, 1972).