

Strategic use of temporary employment contracts as real options

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Abstract

Managers operate in an environment characterised by volatility, uncertainty, complexity and ambiguity. This paper focuses on uncertainty and demonstrates how managers are mitigating supply-side uncertainty through the use of temporary employment contracts. These temporary employment contracts are being used as real options where uncertainty is reduced by reducing irreversibility and by increasing flexibility. The empirical work comprised in-depth interviews with employees and employers in the academic sector, a sector that has a tradition of employing people on temporary contracts. The key findings are: temporary employment contracts provide the organization with a low-risk mechanism for reducing uncertainty in supply; temporary employment contracts increase flexibility and reduce irreversibility for the organization and shift risk from the institution to the employee. However, there is a cost to the organization in the form of demotivation, holding back and early exit of desirable employees. It can also lead to an organizational division between staff employed on temporary contracts and those on permanent contracts. The paper has relevance to managers and decision makers who operate in sectors or levels where human resource abilities are initially opaque but are revealed over time.

Key words: real option, temporary employment, contract, uncertainty, flexibility, irreversibility, risk

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Managers operate in an environment that can be characterised as volatile, uncertain, complex and ambiguous (Ashill and Jobber, 2013; Bryan and Farrell, 2009; Yarger, 2006:18). This paper looks at one of these environmental elements -uncertainty – and the management of such uncertainty through a novel application of real options theory. A real option is the right but not the obligation to carry out an action at some future point in time (Adner and Levinthal, 2004). Real options reduce the impact of environmental uncertainty by increasing organizational flexibility and reducing the irreversibility of decisions (Foote and Folta, 2002).

The paper examines the use of temporary employment contracts as a form of real option whereby uncertainty in the supply of human resources is mitigated by passing some of the risk involved in recruitment from the employer to the employee. Whereas temporary contracts are often used to mitigate uncertainty in demand, this paper examines their use in managing uncertainty in supply, specifically the supply of opaque human resource abilities. In particular, the paper examines the use of temporary employment practices in academia, a sector where it is common practice to initially hire academics on time-limited contracts (Bryson and Blackwell, 2006). It looks at the usage of temporary contracts from the point of view of both employees and employers, drawing on the constructs of flexibility, irreversibility and uncertainty from real options theory.

The main contribution of the paper is to demonstrate that organizations use option-based temporary employment contracts to strategically reduce uncertainty in supply of human resource abilities. Temporary contracts provide organizations with the flexibility to evaluate an employee's performance and to decide at some later date, when the employee's

performance has been more fully revealed, whether or not to continue with the services of that employee. The organization makes a lesser decision upfront – the offer of a temporary contract. It delays its major decision – the offer of permanent employment – until a later point in time when more information has become available. The option to discontinue with an employee on temporary contract strategically reduces the irreversibility that is typically inherent in the employment decision. In this way use of temporary contracts as real options actively shifts risk from the organization to the employee. It was also found that using real options such as temporary contracts to reduce uncertainty comes at a cost to the organization including demotivation of and holding back by employees, early exit of desirable employees, and the creation of a division between those employees on permanent contracts and those on temporary contracts. The paper continues a long line of research in this journal into strategic aspects of the management of human resources (Christiansen and Higgs, 2008; Nguyen et al., 2013; Neirotti, 2013; Wei, 2013).

1. Real Options

A real option is the right, but not the obligation, to undertake a business decision at some future point in time (Adner and Levinthal, 2004). Real options allow organizations to keep costs down until uncertainties are resolved or until new information becomes available (Folta and O'Brien, 2004; Folta and Miller, 2002; Kogut and Kulatilaka, 1994; McGrath, 1997; McGrath and Nerkar, 2004; O'Brien et al., 2003). Real options involve a two-part decision: the first part is the creation of an opportunity without an obligation; the second part is a subsequent decision, after an elapse of time and consequent reduction in uncertainty, to continue with the opportunity or to disengage. They provide the benefit of a 'wait and see' period following the first decision, during which uncertainty may reduce. Organizations make smaller initial investments with lesser commitment, prior to pursuing full investments with

much larger commitment at a later date. The initial trial investment serves to hold the option open for the organization prior to making a later larger full-scale investment. This allows organizations capture potential gains while avoiding the risk of large losses (Bowman and Hurry 1993; Coff and Lavery, 2001; Razgaitis, 2009).

The concept of uncertainty is central to the theory of real options. Without uncertainty options have no value and would not exist; it is the presence of uncertainty that gives an option its value. Knight, an early researcher into uncertainty in a business context (Runde, 1998), regards the future as largely unknowable, that business decision makers have only ‘imperfect knowledge of the future’ (Knight, 1921: III.VII.2), and that the uncertainty regarding future events is ‘not susceptible to measurement and hence to elimination’ (III.VII.48). Indeed in Knight’s view grappling with uncertainty justifies the existence of the manager (he uses the term entrepreneur) and leads to economic profit. A second key concept of real options is irreversibility i.e. the recognition that decisions can be difficult or impossible to reverse. Pindyck (1991: 1110) equates irreversibility to ‘sunk costs that cannot be recovered’. He gives as an example relevant to this paper: ‘investments in new workers may be partly irreversible because of high costs of hiring, training and firing’ (p.1111). The third key concept in options theory is flexibility (Berk and Kaše, 2010): i.e. the ability of a firm ‘to alter its initial operating strategy in order to capitalize on favorable future opportunities or to react so as to mitigate losses’ (Foote and Folta, 2002: 582). Foote and Folta (2002) give examples of two sources of flexibility created through use of options: the ability to delay a major decision until uncertainty has reduced and the ability to abandon a project or resource. They point out that flexibility is inherent in the definition of a real option: the asymmetry between the right, *but not the obligation*, to go through with a decision.

While the origins of real options theory lie in the field of finance (Black and Scholes, 1973; Dixit and Pindyck, 1994; Lee et al. 2007) the methodology has also been applied to non-financial or real assets (Luehrman, 1998; Gilroy and Lucas, 2006; Kauffman and Li, 2005; Schwartz and Trigeorgis, 2004) as 'both disciplines [finance and strategy] attempt to obtain the highest possible return on risky assets' (Amram and Kulatilaka, 1999:25). A number of authors have applied real options theory to strategic investment decisions (Anderson 2000; Smit and Ankum, 1993; Trigeorgis, 1996). Leslie and Michaels (1997) suggest that organizational strategies can be improved in four ways by applying real options theory: opportunities will be emphasised (decision makers who adopt a real options approach are less afraid of uncertainty as this is taken into account in the real options decision making process), leverage will be enhanced (decisions can be made incrementally as new information comes to light), rights will be maximised (the decision maker has the right to carry out an action at some future point in time) and obligations will be minimised (the decision maker is not obliged to carry through with an intention). Bowman and Hurry (1993) discuss strategic decisions within a real options framework referring to an 'options chain' whereby an option is recognised and taken up and, when new information becomes available over time, decisions are made with regard to furthering or abandoning the option. Malos and Campion (1995, 2000) examine strategic human resource development decisions from a real options point of view.

Several writers have developed terminology for types of real options (Kyläheiko et al., 2002; Trigeorgis, 1993). Amram and Kulatilaka (1999) identify types of options as: timing options, growth options, staging options, exit options, flexibility options, operating options and learning options. Brach (2003) classifies real options into six broad categories: the option to grow, option to delay, the option to abandon, the option to expand or contract, the option to

switch, and the compound option - a combination of any of the above options. Janney and Dess (2004) describe five different types of real options: immediate entry, immediate exit, delayed entry, delayed exit and complete exit. The immediate exit option is relevant to this study as it provides the benefit of making full commitments reversible. The organization commits some funds up front which gives it 'the right to avoid an irreversible decision' (Janney and Dess, 2004: 63), i.e. it can terminate the option quickly. An example is the hiring of an employee on a temporary employment contract. The organization can decide, as new information becomes available over time, to extend the temporary employment contract, terminate it or indeed give the employee a permanent employment contract. Grinyer and Daing (1993) point out that having the option to exit a project can be an important influence on the decision to adopt the project in the first place.

A number of researchers have examined temporary employment from the point of view of real options. Badders et al. (2007) suggest that an organization that employs temporary rather than permanent employees is exercising a real option that offers the organization a great deal of flexibility. Foote and Folta (2002) predict that increased environmental uncertainty and irreversibility should lead organizations to resort to increased use of temporary employment. They argue that hiring permanent employees is irreversible due to at least four conditions: labour market rigidities, explicit commitment, implicit commitment and the lack of an internal labour market. The option to defer or abandon when new information becomes available is attractive, hence the use of temporary employees. Bhattacharya and Wright (2005) suggest that much uncertainty relates to hiring because of the largely irreversible costs associated with recruitment, training and benefits, as well as maintenance of employees, costs regarded by Jacobs (2007) as sunk.

2. Temporary Employment

Traditionally, managers use temporary employees to replace permanent employees for reasons of absence, for example illness or holidays, or to deal with unexpected increases in business (Burgess and Connell, 2005 and 2006; Houseman, 2001). Nowadays, however, many organizations regard temporary employees as a critical part of their human resource management strategy with positions at executive, managerial and professional levels being occupied in a temporary capacity (Applebaum, 1987; Foote, 2004; Hipple and Stewart, 1996; Marler et al., 2001). While for many employees 'impermanence is becoming permanent' (Rubin, 1995: 310) for others temporary contracts are 'stepping stones' into permanent work (Engellandt and Riphahn, 2005).

The proportion of people employed on temporary employment contracts in organizations in European, North American and Pacific Rim countries is growing (Anderson et al., 1994; Barling and Gallagher, 1996; Belous, 1989; Dale and Bamford, 1988; Delsen, 1993; McLean Parks et al., 1998; Polavieja, 2002). Carnoy et al. (1997) reported that temporary employment in France grew from three percent to ten percent from 1980 to 1993, while forty percent of the Japanese workforce was either self-employed or temporary, with similar proportions in the UK. Von Hippel et al. (1997) reported, between 1991 and 1993 in the United States, twenty percent of new jobs were temporary. This growth is driven by multiple organizational objectives, for example: cost reduction, increased flexibility, and less responsibility for direct management of employees (Nollen and Axel, 1996; Pfeffer and Baron, 1988).

While much research has been undertaken in the area of temporary employment (Abraham, 1988; Barry and Crant, 1990; Koh and Yer, 2000; Mangum et al., 1985; Voudouris, 2004), research into the area of temporary employment contracts is scarce (Burgess and Connell,

2006; Davis-Blake and Uzzi, 1993; Ellingson et al., 1998; Mitlacher, 2006) and still at an early stage (Connelly, 2004). McLean Parks et al. (1998) have suggested that empirical investigations are in short supply and advised on the need for a broader framework for distinguishing between or analysing different types of employment arrangements and relationships. Davis-Blake and Uzzi (1993) also posited that research in the area is hampered by the lack of a framework; Wright and McMahan (1992:316) advise that it is an area 'in need of a solid theoretical foundation to guide both research and practice'.

Temporary employment is widespread in academia. Bryson and Blackwell (2006: 208) point out that in the UK Higher Education sector '53 percent of the 134,000 academic staff [in higher education institutions] are employed on temporary contracts'. They suggest that no other sector in the UK employs so many professional employees in this manner and refer to similar patterns in Europe, the USA and Australia. Brown et al. (2010) advise that casual employees accounted for 11 percent of fulltime equivalents in 1990 in Australian universities, increasing to 29 percent by 2001 and reaching between 40 and 50 percent by 2008. In the US the proportion of faculty positions that were part-time or temporary in nature had increased from 20% in 1967 to 43% by the year 2000 (Feldman and Turnley, 2004). In Ireland it is common practice to initially hire younger academics on short term contracts (Finn et al., 2007:68).

Temporary employment in academia is regarded as 'precarious' employment 'where risk is transferred from the employer to the employee' (Bryson and Blackwell, 2006: 208). It is a strategy 'to encourage numerical flexibility' (Bryson and Blackwell, 2006: 209) through the recruitment of disposable employees (Bryson, 2004) or invisible faculty (Husbands, 1998). Short and fixed term contracts provide 'the way in which turbulent labour markets and

financial insecurity has been passed on to the workforce' (Bryson and Blackwell, 2006: 209-210). Brown et al. (2010: 170) suggest academic institutions have 'begun to resemble a flexibilised factory' and outline that university management are committing themselves to 'flexibilisation strategies' or 'permanent flexibility' (Shumar, 1995: 94). Authors highlight 'a clash between flexibility and quality' in Australian higher education (Brown et al., 2010: 171; Musselin 2005). Bryson (2004: 41) notes a 'transfer of power from academic autonomy to managerial prerogative'. Kimber (2003: 43-44) suggests that 'the introduction of private sector management practices into the public sector' has led to an agenda of 'pressuring higher education institutions to cut costs and seek 'flexibility' in staffing and in responding to fluctuations in enrolments'.

Van Emmerik and Sanders (2004) suggest that academic institutions increasingly rely on temporary employment contracts as a way to achieve staffing levels without having to make long term commitments. They suggest temporary employees offer the institution a source of flexibility, providing the opportunity to delay the largely irreversible decision of hiring permanent employees while assessing the competence of the temporary employee. The response of universities has been to relieve themselves of responsibilities associated with tenure and this in turn has 'contributed to the emergence of a two-tiered academic workforce - the tenured core with security and good conditions and the tenuous periphery with insecurity and poor conditions' (Kimber, 2003: 41).

Much of the research into temporary employment in academia has been carried out in Europe. In France, the use of short term contracts has multiplied (Bonnal and Giret (2010) with few graduates being recruited into academia without first going through a temporary position (Mangematin et al., 2000). In Germany, graduates are expected to take up multiple

contracts with the road to permanency being 'long, selective and risky' (Musselin, 2005: 141) and the procedure 'complex and protracted' (Enders, 2002: 499). Elsewhere, extensive use of temporary contracts results in graduates 'queuing at the doors of the academic world' (Robin and Cahuzac, 2003: 1) or in 'waiting positions' (Cruz-Castro and Sanz-Menéndez, 2005: 5; Recotillet, 2007: 475) and with reduced attachment to their profession (Feldman and Turnley, 1995).

3. Methodology

The literature review has identified that while real options theory has been applied conceptually to temporary employment contracts no empirical work has been carried out in this area to date. This research project sets out to address this gap using the three key concepts from real options theory as a conceptual framework (Miles and Huberman, 1994: 19): increase in flexibility through increased choice (to retain or to let go the employee); the ability to delay the major decision until more information is available; reduction or at least diminution of irreversibility by having the option to terminate the time-limited employment contract; and the consequent reduction in the impact of uncertainty (see figure 1).

Insert figure 1 approximately here

To carry out the empirical work the researchers adopted a qualitative research approach based on case-study methodology (Eisenhardt, 1989; Siggelkow, 2007; Yin, 2014). A qualitative approach allowed the researchers explore and interpret the use of option based temporary employment contracts in their natural setting (Denzin and Lincoln, 2005) and emphasising their real-world context (Eisenhardt and Graebner, 2007). In practise this took the form of a

series of semi-structured interviews (Saunders et al., 2009: 323) with third level employees and employers.

A total of nineteen in-depth face-to-face interviews were carried out, nine on the employee and ten on the employer side. The interviews took place in interviewees' own offices and lasted between sixty and ninety minutes. The interviews themselves were semi-structured (Bernard, 2006: 212), drawing on a set of questions (Bryman and Bell, 2011: 467) based on specific topics derived from the temporary contracts and real options literatures. All interviews were recorded and transcribed. Data from the interviews was analysed and coded (Corbin and Strauss, 1990) using the main categories derived from the real options and temporary contract literatures: uncertainty, flexibility, irreversibility, probation, retention, exit, risk. Further categories emerged during the analysis process: vocation, motivation, commitment, holding back, exploitation and balance of risk. The interview process continued until signs of theoretical saturation (Strauss and Corbin, 1990:188) indicated that further interviews would add little to the development of categories.

Employee interviewees were chosen from a complement of 65 full-time academic staff in the business faculty of a European third level academic institution. Of these, nine academic employees agreed to take part in the research, five of whom were employed on temporary employment contracts while the other four had been initially employed on temporary employment contracts but had since become permanent. These employees were all full-time faculty members engaged in teaching and research; all of those interviewed were carrying out the primary activities of the organization, not working on special or time-limited projects. The employees interviewed typically held or had held temporary employment contracts of one year or three years duration. On the employer side of the employment contract, the

researchers interviewed all four Deans of the same university as the employees interviewed, along with senior human resources managers from five of the ten third level educational institutions located in the same city.

The concepts of validity and reliability are applied differently in qualitative research than they are in quantitative research where there exists a battery of statistical tests to support the demonstration of reliability and validity (Bryman and Bell, 2011: 394). With regard to qualitative research projects it is vital that the research design is plausible and credible and that the evidence or data collected is also plausible and credible (Silverman, 1993: 155). In this research project the researchers have taken a number of precautions to ensure plausibility and credibility. The chosen sector has an extensive and well documented history of temporary employment as has the specific organization examined making them suitable sites for an intensive examination of this topic. All interviewees were either professional career-oriented academics who have personally experienced temporary contract situations or academic managers who have extensive experience of employing people on temporary contracts. All interviewees had extensive experience of the academic sector and how that sector works. Data was collected from interviewees on both sides of the employment contract providing two contrasting perspectives and reducing the likelihood of informant bias over-influencing the results (Eisenhardt and Graebner, 2007). Lengthy interviews carried out in interviewees own offices ensured that interviewees could speak freely and without external bias, allowing the researchers collect rich data thick with description (Seale, 1999: 107). The tightly bounded set of constructs, derived from the literature, allowed theoretical saturation to occur relatively quickly. Collection and analysis of data took place contemporaneously (Eisenhardt and Graebner, 2007) allowing the researchers to keep abreast of and have ongoing discussion of the research process, data and findings as the research project progressed. A number of

'exemplar quotes' from the data were noted during the analysis; such selective verbatim quotes from respondents, used in the findings section, can 'lead the reader to understand quickly what it took you [the researcher] months or years to figure out' (Bernard, 2006: 503). Finally, the researchers draw on Siggelkow's (2007) argument that the case study is a valuable and robust research approach providing an opportunity for in depth study of a specific situation with the potential to yield exceptional insight into a topic area.

4. Findings

The data suggest that employees on full-time but temporary employment contracts sensed a lack of commitment to them by the organization leading to demotivation, restriction of contribution and holding back of abilities. They also found themselves distanced from employees on permanent contracts who tended not to engage with them until they became permanent. On the other hand, employees were grateful to have a temporary contract rather than no contract at all: it gave them teaching experience, an opportunity to publish from their PhD and provided an initial step to an academic career; however, successive temporary contracts were disliked by employees. The main objective of employees was to attain a permanent position at the end of the temporary contract; when achieved, permanency tended to increase employee commitment to the organization. Lecturers on temporary contracts nevertheless experienced strong emotional ties to their work.

Employees viewed temporary employment contracts as a pseudo probationary period increasing their uncertainty about their future. While employees perceived this as a transfer of risk from the organization to themselves, they desired that this risk be balanced between organization and employee and, if overly imbalanced, they understood that they too had an option - to leave the organization - and were prepared to take up that option if necessary.

Employees did not perceive the organizational context as overly uncertain and consequently did not see the need for the organization to resort to use of temporary employment contracts.

The data suggest that employers were very deliberately using temporary contracts to provide the organization with increased flexibility. Employers recognised that academic employment was vocationally driven and that employees were prepared to accept temporary employment contracts even though they desired permanent work; employers were aware however that employees on temporary contracts could still choose to exit the organization early. Employers strategically used such contracts as periods of extended probation, to staff for risky projects and to stimulate ‘churn’ in the industry. Employers recognised that employees could be seen as ‘pawns’ in the academic game and that extensive deliberate use of temporary contracts could be seen as exploitative. The findings are discussed in more detail below.

Temporary contracts: the employee perspective

Employees looking to establish a foothold in academia were satisfied with a temporary employment contract: ‘I had just come out of a PhD programme so what I wanted then effectively was a couple of years to be able to produce publications. So [temporary] from my perspective was fine’ (D); ‘[The temporary employment contract] had given me four years to show what I could contribute’ (F).

However, limitations imposed by temporary employment contracts were noted: ‘Now when you are in the job you say well there is so much more I can do from here’ (D); ‘if you wanted to move on past individual research, if I want to grow a research programme, I need to take on a number of PhD students, I need to acquire external funding... then definitely it [temporary contract] would be a huge preventative from being able to move forward with that

sort of work' (D). Another interviewee advised: 'there is at least a full workload of a very specialist area and I think that could continue to develop' (A).

Several interviewees pointed out that a temporary contract indicated a lack of commitment to them by the organization and this in turn mitigated their own full commitment to the organization: 'the worst thing about a short-term contract is that it is de-motivating' that it 'would delay a full contribution' (A); 'I strongly disagree with continuous temporary contracts because that will affect motivation' (I). Another questioned 'should I go the extra mile? Is it worth it? Is it going to be appreciated?' and 'you don't really know how much it is appreciated or regarded within the institution' (H).

Employees felt restricted by the time limit on their employment contract: 'There are certain elements of academic work that you would not begin, for example, the supervision of a PhD student, bidding for research money. If you did not know you were going to be here four years from now it would be terribly unfair to take on a PhD student' (A); 'you are concerned in the sense that, will I be around here in two years' time? It is not fair to take on somebody if you are not going to be here. So that would be a concern' (D). The organization itself restricted the task set asked of the temporary employee: 'if you are on a one year contract you teach more because you are not supposed to have administrative and research responsibilities' (A).

Temporary employees were seen as being in a holding position and permanent colleagues held back from full involvement with them. A number of interviewees spoke of the remoteness of their relationship with permanent colleagues and with the institution: 'I do see there is a difference in the way you are viewed by the institution. I think the institution is

prepared more to invest in you when you are permanent' (E); 'people view the permanent position as [where] you can really build and you can really develop' (D).

Despite being temporary, interviewees had a strong emotional tie to their positions: 'I am on a contract here and I cannot leave in the middle of it because you cannot leave a class in the middle of a semester. Information could get around' (G). Another advised: 'I had come to like the academic life and was happy to stay with it. I tried it and liked it' but 'You do not want any black marks' (E). Some employees had few other alternatives available: 'there are no other [academic institutions] at the moment in Ireland where I could have a full role' (A).

The aim of most employees on temporary contract was to attain a permanent lecturing position: 'obviously what you are trying to pursue long-term is a permanent position' (D); 'my hope would be that I would be offered or manage to get a full-time post' (A); 'permanency would be the ultimate goal' (G).

Permanency was associated with increased affirmation, security and increased commitment: 'I got affirmation in the best way possible that I was making a contribution, that I was adding value and [I was] happy to continue doing that' (B); 'There is a huge difference. Being permanent you become more committed, more secure so I could fully concentrate on my job without thinking of what I am going to do for the next year so I can be fully committed' (I); 'You would like to be offered at least a permanent contract. [It] gives you more security and sense of belonging. Also I think to a certain degree it impacts on your commitment. You are committing to something and putting so much work into something that you do not know if there is anything for you next year' (H).

Permanency was also seen by employees as good for the organization: ‘When I got the permanent role I could allocate my time more effectively. I can make my research more productive. I can manage my time, teaching and research better’ (I); ‘[If permanent] you can pull in longer term projects particularly say funding for research projects; they are always in five-year blocks’ (D). Employees adjusted their behaviour to suit the temporary contract and then adjusted again on attaining permanency: ‘with temporary, you really have to gear everything just for the three years; anything that will help your case at the end is worth doing. Whereas now I do not have that scenario...I would take on different sorts of things - more strategic and long term’ (E).

Uncertainty, flexibility and irreversibility: Employee perspective

Interviewees clearly regarded the use of temporary employment contracts as pseudo-probationary periods: ‘You can see from the employer’s perspective that they have two, three or four years to see if they want to keep someone’ (F); ‘it can be a way for them to filter as they tend to go for people who will bring in research funding... by having one [or] three year contracts they can make sure that it is the person they want and are going to keep’ (H).

Interviewees were keenly aware that the use of temporary employment contracts made their future more uncertain: ‘uncertainty was one of the key concerns’ (I) and ‘Uncertainty I really dislike. The thing of being secure this year and next year but the following year I will be back to square one again’ (A). In a similar vein: ‘[there was] lots of uncertainty in terms of... the three-year contract or one year contract ... [the important thing is] elimination of uncertainty’ (B).

The flexibility associated with temporary employment contracts was largely seen by employees as advantageous to the institution as it transferred risk to the employee: ‘definitely the [institution is] maintaining flexibility and the risk is transferred to the individual because they may not have the work down the road’ (C); ‘the employee incurs the risk, there is only so much flexibility’ (F).

Employees stressed the importance of balancing the risk between both parties to the contract or else employees may be forced to leave early: ‘There needs to be a balance between what [the institution] is gaining and what the individual is gaining. If that balance becomes out-of-kilter, I think there is a serious issue then because people are already motivated, they are looking outside, and they are looking for another [institution]’ (A); ‘they [the employer] probably have created the risk that they still need the [employee] in a year's time but [the employee] won't be available to them then. That would appear to be the risk they have created’ (C); ‘At the end of this year if I was not made permanent I would just leave because I think it would not be right for me and then the risk would be totally on my side’ (A). It was pointed out that use of temporary employment contracts is ‘a high-risk strategy if it is overused in an academic context’ (A).

Nevertheless, most interviewees felt the temporary employee shouldered the greater burden of risk: ‘The risk is with me I think more than the [institution]’ (D); ‘I think overall it weighs more favourably on the side of the employer’ (G); ‘I felt at the time [the risk was] almost entirely on my side’ (E); ‘the staff member has more risk’ (C); ‘obviously they would be able to replace me’ (A). One interviewee said: ‘[it is] definitely a seller's market in terms of academia... colleges can afford to engage in short contracts because they are not worried that some other institute will snap you up because there is a scarcity of posts. So the risk is

definitely higher for an employee. I do not see any risk for the employer'; that interviewee went on to point out that in a year where the country produced 920 PhD graduates there were less than fifty available posts.

Employees queried the level of environmental uncertainty to which the institution was subjected and the justification for use of temporary contracts: 'The [institution's] business is less unpredictable or less uncertain than other business' (I); 'In this environment to be quite honest, contract work does not seem to add anything because they have certainty...I do not see a need in this industry' (C); 'they [the employees] are stretched and yet the [institution] is very loathe giving long-term contracts' (B).

Employees suggested that the institution chooses to set a short time horizon with respect to employment: 'I think it is more likely that [institutions] do not want to commit to long-term commitment to a human resource. Therefore, they will make the shortest possible decision that they have to' (A). Employees accepted these contracts under some duress: 'I would not even have accepted it normally but it was just the circumstances' (A); 'I was willing to take it but I was not very excited about a one-year contract' (H). One outcome of this is that the organization must repeatedly invest in new people: 'It is sliding down the snake every year. You build that person up the ladder and then that person leaves because they are on a one-year contract' and so 'they keep on turning over people' (B).

Temporary contracts: the employer perspective

Interviewees on the employer side emphasised the importance of flexibility to the organization and that temporary contracts increased flexibility for the organization: 'Our mantra is flexibility and adaptation' (J); temporary employment contracts: 'certainly allow

flexibility' (J). This is in contrast to the rigidity inherent in permanent contracts: 'once you employ a permanent member of staff then you have the fixed-cost that has to be covered whereas the flexibility of [temporary employees] allows that' (J); 'unless you get a retirement or you increase your complement you do not really have a lot of flexibility' (M).

The ability of the organization to exit from the contract provided a source of flexibility: 'If the [temporary employee] does not work out for whatever reason, their contract is simply not renewed... there is no commitment to the employee' (P); 'No question and unambiguously - there is no commitment to [them] here, we will not commit anything to [them] in the long run' (L). A by-product of this flexibility was that the organization could be more experimental in its hiring: 'you are more likely to be more innovative, a bit more risk taking' (R).

The nature of hiring was 'vocationally driven' (J) with newly recruited lecturers 'coming in because they are bringing in specialist knowledge. Some of them want to do it because it gives them kudos in the sense that they are getting real life experience through teaching' (J).

Employers appeared to be following a deliberate strategy of shifting from permanent to temporary employment: 'there may be a growing appreciation to have fifteen or twenty percent of your workforce on a flexible temporary model' (Q). Another interviewee outlined: 'We appointed people on fixed-term contracts and our rule of thumb was roughly this, if hitherto the position would have been appointed on a permanent basis, then we will appoint on a fixed-term basis' (O). A further comment made was: 'we just issue them with a contract that covers a defined period of time' (N).

Differing views were expressed as to the level of environmental uncertainty in the sector. On the one hand: 'each year we do not know what the level of student applications is going to be like, whether they are going to be up or down or even will certain programmes become unpopular all of a sudden, and what was once a cash-cow is now no longer attracting people so that is where uncertainty comes in from year to year' (N). On the other hand: 'It is only uncertainty of how much and when, not is the [institution] going to close? Are we going to be sold? Are we going to be merged? So is there uncertainty? My view is there is no real uncertainty' (Q). There was some evidence of temporary contracts being used to mitigate demand uncertainty: '[the institution] would hire people on temporary contracts to see how a programme flies' (Q).

Employers appeared to deliberately use temporary contracts to extend the period of employee probation: 'In recent years we have had strong revenue streams in some areas but in those very areas it is very hard to get suitably qualified people to take on permanent posts... we got candidates with core competence but not the full set, those people would have been offered temporary posts' (K); at a later time the temporary employees 'would then apply for the permanent post when it becomes publicly advertised' (K). There are however risks to the employee. They may have demonstrated insufficient competency: 'If they are not cutting it they are gone'; and even if they have the job could still go to an even more qualified person: 'you have to have an open competition. If somebody comes in from outside in those circumstances then the internal candidates are not going to get the job. We have had those situations' (L). The temporary contract option mechanism is also not without risk to the organization: 'while somebody is in that arrangement they can perform out of their skin and once you give them [permanency], the performance drops off" (N); and 'these stars did not turn out to be stars' (Q).

Temporary contracts were also used to manage demand or staff riskier projects: ‘initially we will offer temporary employment contracts but our aim would be to move to permanent contracts if things work out’ (P). Such action is perfectly in line with real options thinking: writing an option now and exercising that option some time later.

Employers were aware of the risk of a temporary employee leaving early: ‘I think that the employee is much less secure in their continuation of their services if they are on a temporary contract because they will be looking around and be thinking of that particular horizon’ (K); ‘if they are good, that [their leaving] is a real risk’ (Q). This risk is increased due to the international orientation of the academic community and the loyalty of academics to their profession, often ahead of their institution: ‘Academics are mobile generally and because there are faculties internationally there is always the risk’ (R); ‘if somebody's reputation is good, they meet each other at conferences and there is a risk that somebody is poached’ (Q). However the risk was perceived as small: ‘I do not think it is a particular risk at the moment’ (Q) and could be mitigated by the offer of permanency: ‘[organizations] want the ability to hold onto people and permanency gives them that’ (Q).

There was some evidence that the build-up of temporary contracts was a way to stimulate the churning of employees. Employers pointed to a relatively rigid labour market: ‘the retention levels are so good that it actually becomes a problem’ (Q); ‘there are not a lot of people moving on, then you have basically got blockage’ (M) and that some churn was desired: ‘what you are looking for is a balance... you are looking for reasonable churn’ (O), and ‘there are occasions you would wish there was churn’ (O). Temporary employment contracts

were a means of ‘refreshing the expertise cadre in the [institution] on a reasonably regular basis’ (O) and ‘enriching, bringing in experience you do not have on your staff” (M).

One employer appeared to view hiring as a game and that employees ‘need to know the game of what education is all about ... [and] may find that they are actually lured to the game and may want to move from industry into the game of education’ (J). This respondent theorised that employees from industry ‘found the excitement of education being more reactive... you are renewed easier each year with new students coming in; you do not have the monotony of doing the same sort of things’ (J).

Employers were aware that temporary employment contracts pose difficulties for employees: ‘I think you will find a lot of frustration’ (M); ‘[a temporary contract] causes a bit of schizophrenia with regard to the [temporary] staff who feel it is their module but yet they are not in control’ (J). Employers were also aware that use of temporary employment contracts could be seen as exploitative of new lecturers: ‘The exploitation argument is always one we are very worried about’ (J) and ‘[temporary employees] are always the manipulated element of the resource’ (J); and ‘I would worry that they are being just used as pawns to over extend the flexibility’ (J).

5. Discussion

The research findings demonstrated that academic institutions rely on temporary employment contracts as a way to achieve staffing levels without having to make long term commitments, supporting the previous work of Carmichael (1998), Mangematin et al. (2000), Musselin (2005), Recotillet (2007) and Van Emmerik and Sanders (2004). The research also supported the work of Robin and Cahuzac (2003), Bonnal and Giret (2010), Finn et al. (2007),

Mangematin et al. (2000) and Musselin (2005) who suggest that early careers of academics are characterised by periods of temporary work and long waits before permanent employment becomes available. The findings also support Feldman and Turnley's (2004: 284) argument that academics on temporary contracts experienced 'relative deprivation' compared to their permanent colleagues.

Flexibility, irreversibility and uncertainty are important in the context of organizational decision making and performance (Lukas, 2007; Musshoff and Hirschauer, 2008). When uncertainty is high, flexibility and reversibility are particularly important (Van de Vrande et al., 2006). The findings in this paper provide support for Atkinson's (1984) theory of the flexible firm with its core of permanent staff surrounded by a periphery on a variety of flexible contracts. Use of temporary employment contracts, in situations where employees desired permanent work, provided increased flexibility to the organization. The institution enabled reversibility, retaining the ability to exit from decisions which could prove costly (O'Sullivan, 2002; Wenger and Kalleberg, 2006).

The level of environmental uncertainty influences an organization's choice of employment contract mode (Kulkarni and Ramamoorthy, 2005; Neirotti, 2013) and some of this uncertainty can be shifted from the organization to the employee through the use of temporary employment contracts (Kennelly-McGinnis, 1991; Foote and Folta, 2002). This shifting of risk from the organization to the employee is supported by the data collected in this research project. The institution gains from the use of a temporary contract as an option as it has flexibility to retain or let go the employee at the end of the contract period. If it chooses to retain the employee it does so with far greater knowledge of the employee's ability and fit with the institution. The institution therefore has shifted some risk from itself to

the employee: the employee does not know if he or she will be kept on by the organization after the temporary contract period has expired.

Footnote and Folta (2002: 592) suggest that real options theory predicts that 'greater irreversibility and environmental uncertainty should lead to a greater propensity to outsource employment (i.e. hire temporary workers)'. This research project however showed that third level academic institutions were perceived by interviewees as being subjected to relatively little environmental uncertainty and yet the institutional hiring policy clearly fostered flexibility and irreversibility. Interviewees appeared to resent the organization for using temporary contracts in a situation that they, the interviewees, perceived to be low in uncertainty. It is well-known that temporary employment contracts are used to increase flexibility so that organizations can adjust their workforces to changes in demand (McKay, 1988; Way, 1988). This research shows that temporary employment contracts are also being used to manage uncertainty in supply: they provide a mechanism that allows employee ability to reveal itself more fully before the organization decides whether or not to make a long term commitment to the employee.

The findings also support the suggestions in the literature that temporary employment contracts are used as screening devices in employee selection (Jacoby, 1999; Williamson, 1991) and act as 'stepping stones' to permanent work (Engellandt and Riphanh, 2005). Employers and employees alike acknowledged that the organization was giving the temporary employee a start in academic life and a period of time to show what they could do. The organization was eliminating the risk that the employee might not work out; the organization avoids committing to them long term. Temporary employment contracts allow

the organization terminate the employee quickly at relatively low cost and in this respect are a form of immediate exit option (Janney and Dess, 2004).

Temporary contracts restricted employees who in turn tended to hold back on their areas of contribution, become demotivated and at the limit leave the organization. Employees questioned the institution's commitment to them and felt they could not contribute fully in their role. They felt restricted in delivering as much as they would like to due to the time limit on their contract: in essence, 'holding back' (Feldman and Turnley, 1995). This implies that organizations in turn may not be benefiting from the full skill set or full efforts of employees. On the other hand, employers anticipated that extended probation could spur employees into exceptional performance but were concerned as to whether or not these high levels of performance would be sustained after permanency. While employers seemed happy to stimulate more 'churn' of employees in the industry, employees tended to see the regular turning over of employees as wasteful.

Ironically, many interviewees felt an emotional tie to their work and by extension to the organization and were reluctant to leave before the end of their contract period. Others felt tied in to the contract as to leave early would risk blotting their copybook in a close-knit academic world. There is an irony here as permanent employees could leave the organization by handing in one semester's notice. Because of these emotional ties, there was a perception among employees of exploitation of the situation by the organization.

6. Conclusion

Making the right employment decision is critical for an organization as true employee abilities may be difficult to discern and permanency difficult to reverse. This research project

explores new ground as it is the first paper to empirically examine temporary employment contracts from a real options point of view. This paper found that temporary employment contracts are being used by employers as risk mitigation mechanisms within a context of organizational uncertainty. While the concept of temporary employment is well-known this research looked in-depth at exactly how temporary contracts increased flexibility and reduced irreversibility thereby mitigating uncertainty. Employers used temporary employment contracts to reduce supply-side uncertainty and to shift risk from employer to employee. Temporary contracts were regarded by employees and employers as extended pseudo-probationary periods. Employers were found to deliberately view employee hires as real options and exercised, or not, those options at end of contract. Employees on temporary contracts were also clear that an option had been taken out on them.

Financial options have a price and so too do real options. This research project demonstrated that the organization also pays a price when taking out a real option on a human asset. However, the price of human-based options is different in nature to that of existing options. In contrast to financial options and other real options the asset (i.e. the employee) has the ability to influence the operation of the option. Employees may therefore choose to work harder. However, employees also sense the transfer of risk from the organization to themselves and the lack of commitment on the part of the organization and may become demotivated during the contract period, working less effectively as a result. Employees can choose to hold back on their efforts and rein in their abilities, especially if they come to believe that the contract will not be extended. Permanent employees also hold back from engaging with temporary employees until they have been made permanent. Desirable employees may make an early exit from the organization in order to take up a better or more certain offer elsewhere. These side effects - demotivation, early exit, and holding back by

both temporary and permanent staff – represent the cost to the institution of taking out the option. An enhanced version of the research framework, based on these findings, is given in figure 2.

Insert figure 2 approximately here

It is clear from the research that many of the employees interviewed found it difficult to see the source of uncertainty from the point of view of the organization. Employees perceived the environmental context as relatively certain and temporary contracts as unnecessary. Employees however largely misperceived the motivation of the organization which was to mitigate uncertainty in the supply side and not the demand side, the side for which temporary contracts are traditionally used. The organization was using temporary contracts as a vehicle for revealing difficult to observe abilities in suppliers of services, in this case employees. This use of temporary contracts has relevance not only to academia but also to other sectors such as hiring of senior executives where opaque resource capabilities can be revealed over time using option-based time-limited contracts.

The paper provides four lessons for managers. First, it provides a solid illustration of a novel use of a real option: as a temporary employment contract. Second, it provides a novel way of viewing temporary employment contracts and a new language, drawn from real options theory, for discussing and examining them. This is particularly useful in a field that many researchers feel is in need of a solid theoretical foundation (Davis-Blake and Uzzi, 1993; Wright and McMahan, 1992). Third, the paper shows how temporary employment contracts increase the flexibility of an organization by delaying the major investment decision and giving it an additional choice: not to continue with the employee. Using an option-based

temporary contract makes the employment decision reversible. Fourth, the paper demonstrates that this comes at a cost to the organization: the employee may lose motivation, may hold back on their full effort, or may exit early. However, employers appear to underestimate the nature and extent of these costs.

The study has a number of practical implications for managers. First, it is clear that temporary contracts used as real options can provide additional desirable flexibility at organizational level. Second, although such flexibility may be desirable (Guest, 2004) managers need to be careful that they do not alienate their workforce in the longer term. Employees eventually made permanent will remember their temporary period with the organization: a negative initial experience may generate longer run dissatisfaction. Third, managers need to be aware that systematic use of option-based temporary contracts may lead to the creation of a two tier organization: a protected core set of employees and a tenuous periphery (Atkinson, 1984); the organization will need to ensure that such a structural arrangement fits with its long run strategy, or else take precautions to avoid it becoming embedded. Fourth, systematic use of option-based temporary contracts will eventually become known to the outside world and may make the organization less attractive to high calibre recruits; such reputational risk may not be in the organization's best interest. Fifth, extensive early exit of employees may result in the organization becoming a training ground for staff who move on to other organizations; this may deplete the human capital (Wright et al., 1994) of the organization while at the same time increase that of its rivals. The overall impact on the organization of the avoidable voluntary dysfunctional turnover of desirable employees can be surprisingly costly (Griffeth and Hom, 2001: ch. 1).

The research has specific implications for human resource and general managers. They must take into account not only the service provision (Nguyen et al, 2013) elements of temporary contracts but also their strategic benefits and costs as identified in this paper. There is a danger that, although such contracts provide flexibility, they may inadvertently lead to misalignment of HR and business strategies (Christiansen and Higgs, 2008). HR managers must develop ways of maintaining employee motivation in the absence of full commitment to them by the organization, minimising holding back by employees, spotting the signs of early exit and taking precautions to hold onto desirable employees, and reducing the divide between temporary and permanent employees who all carry out similar roles. General managers also must carefully weigh up the benefits and consider the full costs of using temporary contracts when contemplating the hiring approach. While stimulating churn and revealing opaque employee ability may be important, the strategic HRM literature warns that ‘the most important assets of any business walk out the door at the end of each day’ (Allen and Wright, 2006: 4). By extension, a manager will not want desirable but semi-permanent (Wernerfelt, 1984) human resource walking out of a temporary contract early. This is all the more so when these human resources have specific but opaque abilities that are tacit (Mueller, 1996), difficult to imitate, likely to be rare, and may be valuable (Barney, 1991) and therefore a potential source of future organizational competitive advantage (Wright et al., 1994).

There are also specific implications for academic managers, Deans, Provosts and Vice-Chancellors. Flexible contract arrangements that transfer risk from the organisation to the employee provide an economic benefit to the organisation, one that may be particularly attractive when funding sources are under threat. However, academic managers may not be fully weighing into their decision calculus the economic cost of holding back and other

adverse behaviours identified in this research. Also, such behaviours may reduce opportunity for identification and development of synergies in teaching and research activity between the two tiers of staff. The long run implications of the development of a two-tier academic workforce - with employees in temporary and permanent tiers carrying out the same job but under different employment conditions - are also unclear. This research identified the existence of a division between employees on permanent contracts and those on relatively long but nonetheless temporary contracts. Increasing use of ever more precarious temporary contracts (Chakraborty and Weale, 2016; O'Hara, 2015; Stein, 2015) may lead to even greater division between permanent and temporary staff tiers. Institutionalising such deep division among faculty may not be in the long run best interest of academic organisations. Academic managers also need to consider the long run consequences of using a tier of employees divided from the main body of the organisation to carry out a significant element of its mission.

An interesting area for further research is to further examine the balance of risk to the organization between early-exit of valuable employees and reduction in uncertainty regarding opaque employee abilities through use of option-based temporary contracts. A second area of further research is to extend formal real option theoretical models to incorporate situations where the asset itself can influence its own value and therefore the cost of taking out the option. A third area is to examine the extent to which mobility of employees moderates the use of option-based temporary employment contracts. For example, less use may be made of such contracts in mobile environments where early exit of desirable employees may occur more frequently. Fourth, a further more detailed study of the impact of option based temporary contracts on the nature of the work itself could be carried out, for example: the impact on academic freedom or on autonomy of academics. Fifth, the impact of the extensive

use of option based temporary contracts on permanent staff may provide a fruitful area for further research. Finally, the strategic costs to the organization of demotivation, holding back, early exit, and division between tiers merit further and deeper investigation.

There are a number of limitations to this study. First, the data was largely drawn from a single academic institution in a single national context and therefore care must be taken in generalizing from the study. Second, the data was drawn from a public sector organization and care must be taken in generalizing to the private sector where rules around hiring and firing are different and irreversibility of employment contracts less entrenched. It would be interesting to extend this study to other sectors where temporary contracts are extensively used, for example retail, or to areas of work where time-limited contracts are regularly used, for example senior executive appointments. Third, the study took a qualitative approach which provides great insight but with less precision than would a quantitative study. Future quantitative studies could be carried out using questionnaires and statistical analysis tools to explore more precisely the constructs examined qualitatively in this paper.

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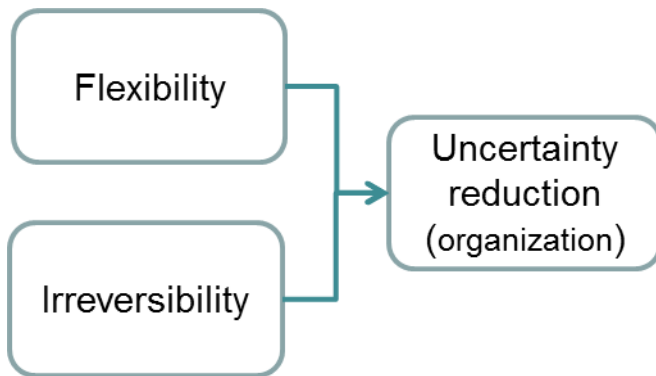


Figure 1: Research framework based on constructs from real options theory

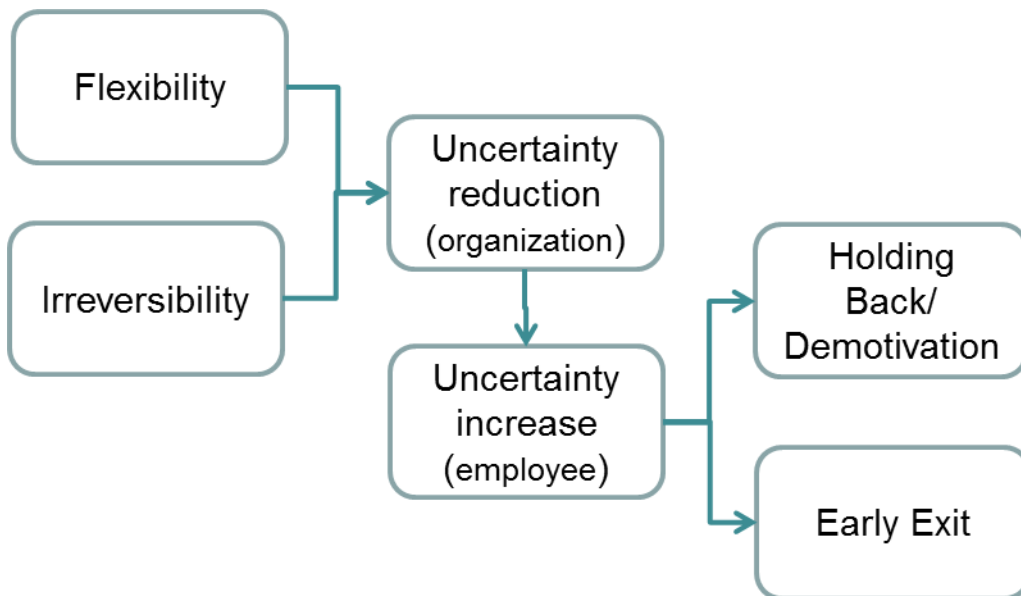


Figure 2: Enhanced framework based on research findings