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Segmenting workers within a job family for customized HRM 'content' practices: the case of IT service support workers

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Managing IT Service Workers: Differentiation through ‘Talent Segment Management’.

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Abstract

In response to suggestions (e.g. Boudreau, 2010) that the marketing concept of segmentation might be usefully applied to HRM practice, we systematically identify different ‘talent segments’ amongst a population of IT service workers. From this a ‘Talent Segment Management Decision Support Tool’ for line-managers of IT service workers is presented to facilitate appropriate differentiation in their people management practice. As a broader theoretical contribution a ‘Talent Segment Identification Process’ is presented (and illustrated by example) by which ‘talent segments’ might be identified from within an identifiable group of workers (e.g. within a job family) via qualitative research methods.

Introduction

Despite the suggestion that competitive advantage can be achieved through careful consideration of the optimal combination of human resource management (HRM) practices (Boxall, 2003), there is a dearth (across the academic and practitioner literature) of considered advice or tools specifically designed for operational line-managers within information technology (IT) service-providing organizations (including those commonly referred to in the Internet age as ‘tech companies’). IT remains a privileged sector of the labour market (Webster, 2005) in which workers with advanced or specialist skills (i.e. key ‘talent’) are often in scarce supply (e.g. UKCES, 2016). It is imperative that organizations acknowledge the importance of these workers as human capital (HC) and employ effective management techniques to optimise their performance as IT system resources and development as organisational assets. As Storey (2005, p. 217) observes, *‘recruiting highly qualified staff but failing to locate them within a complementary context of supportive capabilities could be pointless’*. In this article we provide an operational talent management decision support tool for use by such managers, and explain how it was theorised inductively through a research project that set out to conceptualise the IT service worker.

The nature of work within organizations is of course heterogeneous (Benson and Brown, 2007), no less so in IT organizations than any other, and it has long been accepted that differentiating between workers is a major requirement of organisational management (Townley, 1994). Specifically, from an HRM perspective, by differentiating between workers and ‘partitioning’ them into rationalised and intelligible groups (Townley, 1994), organisational management is better able to establish and maintain control over productivity. An organisation can be partitioned in various ways with significance for differentiating HRM practices. Typically it might be partitioned vertically by grade levels, and/or functionally by departments/divisions or by job families (such as ‘IT service workers’) within which there are

assumed shared attributes and competencies (Pilbeam and Corbridge, 2002). Such partitioning makes available to management the possibility of applying different HRM 'content' practices (Hendry and Pettigrew, 1990) to different groups so as to positively impact upon organizational productivity (e.g. through optimising workers' motivation). Recently, drawing upon workforce differentiation strategies (e.g. Ulrich and Beatty, 2001; Huselid et al, 2005), there have been calls, largely from accountancy-informed management perspectives, to apply the marketing technique of segmentation to HRM (Boudreau, 2010; Cantrell and Smith, 2010; Boudreau and Jesuthasan, 2011; Ziskin, 2015) so as to direct investments in the organisations 'human capital' towards the 'talent pools that are most pivotal' (Boudreau and Ramstad, 2007: 43).

At the formal level, and typically the responsibility of designated HRM professionals, such differentiation between workers might be inscribed within workers' employment contracts that detail variable benefits or reward packages for different grade-level partitions/segments, and over which (some) employees might be offered (or be able to negotiate) a degree of choice or flexibility as to the components of their individual package (Hutchinson, 2008). At the informal, non-contractual, level, appropriate differentiation as to how human resources are managed on a day-to-day basis is inevitably dependent upon the capabilities of line-managers to act with appropriate flexibility towards their charges. At this informal level line-managers are engaged in a wide range of tactical and operational-level decisions that impact upon individual career pathways, commitment to organizational goals, and motivation to high performance. For example, line-managers will typically have responsibility for deciding who specifically is assigned to new projects offering developmental opportunities, who specifically is selected (or can be spared) to attend technical training courses, and what degree of effort is made to persuade a specific worker to withdraw a resignation. Managers working in the IT environment are, through institutionalised norms of behaviour (Trusson,

Doherty and Hislop, 2014), attuned to managing using rationalising ‘best practice’ process models (e.g. for incident management, service level management, change management etc.) as tools for maintaining control while striving for system optimisation (e.g. Steinberg, 2011). And yet there are no compatible performance-optimization process tools available to them for managing people (i.e. the human resource element of the managed system) at the operational level with flexibility. In this article, such a tool is presented, having been theorised via analysis of a qualitative study of IT workers across five IT organizations or semi-autonomous IT divisions of organizations. Specifically, we consider how IT workers might be segmented into worker types so that particular informal HRM ‘content’ practices (specifically here, job design, performance appraisal, learning and development, informal reward systems, and retention strategies) might be varied or customized at the operational management level most appropriately for mutual worker and organizational benefit.

Managing IT Service Workers

While the academic and practitioner literature contains much practical advice and guidance for line managers on how to manage workers, the service turn in IT [as epitomised by the diffusion and institutionalisation of ‘best practice’ IT service management (ITSM) techniques (e.g. Steinberg, 2011)], has resulted in a degree of confusion for IT managers as to what advice to follow in regard to managing their charges. The contemporary IT worker might justifiably be defined as (i) service worker, (ii) knowledge worker and (iii) IS professional, and yet the guidance provided for managers with responsibility for managing each of these types of worker is often incompatible or contradictory. The core argument of this article is that HRM-related decision-making by line managers can be assisted by applying different rules to different identifiable types of IT worker. The research undertaken and reported on here identifies four distinct types of IT service worker (i.e. four segments). This provides the basis for a rational decision-support tool for flexible line-management. The guidance

inscribed within this tool draws upon credible literatures, discussed below, offering HRM advice for managing, respectively: service workers; knowledge workers; and IS professionals. Following this discussion of the literature, the inductive research methods by which the four IT service worker talent segments were identified are discussed. Thereafter, the research findings are reported and discussed, leading to the presentation of our Talent Segment Management Decision Support Tool providing line-management guidance for each talent segment in relation to the informal HRM practices of job design, performance appraisal, learning and development, non-contractual reward, and retention considerations.

In the following subsections, supported by a comparative table (Table 1) we discuss informal HRM practices associated with service work, knowledge work, and IS professional work.

Informal HRM Practices for Service Workers

As businesses and economies have shifted the focus towards service (Rust and Miu, 2006) so behavioural expectations of workers have placed greater emphasis on customer satisfaction. Associated with this, the notion of service as a human expression of intimate and often subordinate care performed as a relational transaction has been implicitly retained through the rhetorical promotion of ‘*a myth of customer sovereignty*’ (Korczynski, 2002) within a ‘*management rhetoric of ‘customer care*’ (Noon and Blyton, 2007: 65). In a business-to-business relationship, (IT) service provider and recipient meet in real time as (implicitly unequal) human representatives of their respective employers who are in a systemic service relationship. Within this relationship the service-providing IT worker is expected to both practically care *for* the needs of the service-receiving worker (and thereby their employer) and adopt a caring *about* demeanour in order to meet a customer ‘*expectation for tender loving care in service*’ (Schneider, 1994: 69) and thereby nurture the corporate relationship between service provider and client (Skeggs, 1997).

In line with this, a concept of care is advocated within ITSM settings by a rhetoric that stresses the importance of '*the concept of customer delight*' and by operational management demanding that workers be '*responsive... attentive, reliable and courteous*' (Berkhout *et al.* 2000: 21) and be subjected to performance surveillance techniques such as the statistical 'dataveillance' functionality (Clarke, 1988) of integrated ITSM systems and customer satisfaction surveys (Steinberg, 2011). This has clear implications for operational HRM practice in that line-managers might, through their interactions with each specific worker, encourage the construction of a work-identity oriented towards service in which caring *for* and *about* customers is paramount or a work-identity more oriented towards technical expertise. For such service-oriented workers, training needs are likely to be defined by line-managers as relating to the development of skills and traits associated with customer service (Dupuy, 1999; Korczynski, 2002; Michel *et al.*, 2009).

Another important dimension of service excellence that is considered to be important for informal operational HRM practices is the speed of the service provided to the customer that, following the service turn, has been expanded from being about the quickness of performed work activity to include responsiveness, reliability and meeting service levels to acceptable levels of work quality (Parasuraman *et al.*, 1985; Schneider, 1994). This requirement of IT workers to work speedily is emphasised within the 'best practice' for ITSM through the collection of performance metrics including the average time to resolve an incident (Steinberg, 2011).

Informal HRM Practices for Knowledge Workers

The cultivation of regularised 'speed' may be important in the management of service workers, but for knowledge workers this might not be appropriate as knowledge work will

often require time for the seemingly unproductive task of reflecting upon the issue being faced and testing out alternative investigative and diagnostic pathways (Kahneman, 2011).

Given the attributed importance of knowledge work to the developed economies, how to manage knowledge workers has garnered particular interest (e.g. Horibe, 1999; Amar, 2002; Newell et al, 2002; Storey, 2005; Goffee and Jones, 2009) with the motivators for knowledge workers identified by Tampoe (1993) remaining largely unchallenged: personal growth; operational autonomy; task achievement and monetary rewards. As such, these motivators will have influenced, if not necessarily driven, operational HRM practices of line-managers when managing staff perceived to be knowledge workers.

Perhaps unsurprisingly, a key notion in relation to the management of knowledge workers is the encouragement of knowledge creation through learning and then the utilisation of that knowledge once created. A key challenge for many knowledge workers, and one that operational HRM practices can support with, is gaining organisational/contextual knowledge and then melding this in practice with theoretical/technical knowledge (Tam *et al*, 2002) to acquire what Swart (2011) conceptualises as '*know-how-in-action*'. Given such contextualised knowledge may be essential for the delivery of competitive advantage (Storey, 2005) and that this contextualised knowledge can only be learned over time through exposure to different problems and by networking within the contextual setting, appropriate operational HRM practices to facilitate this must be considered as organisationally vital. Firstly, these practices should endorse the ceding of autonomy to workers to carry out their responsibilities without undue surveillance, or as Goffee and Jones (2009, p. 36) express it, '*leading with a light touch*', providing them with the necessary space and resources and protecting them from distractions such as administrative responsibilities. And secondly, operational HRM practices should facilitate the building of what Goffee and Jones (2009, p. 62) refer to as '*a social architecture of knowledge*' across key knowledge workers who might self-form and self-

manage project teams (Newell et al, 2002). Additionally, practices should be directed towards: (i) the exploitation of that ‘know-how-in-action’ to meet organisational objectives and/or customer requirements; (ii) the sharing of it via team-working arrangements, work shadowing and mentoring, and via the appropriate use of knowledge repositories (e.g. Swart *et al*, 2001); and (iii) the retention of it through rewards and remuneration packages for key individuals, and the application of succession planning practices to roles fulfilled by key knowledge workers so as to offset the risk of those individuals leaving and/or to militate against the risk of over-reliance on them.

Informal HRM Practices for IS Professional Workers

The management of information systems has understandably long been embedded in systems theory (e.g. Checkland and Holwell, 1998) which tends towards conceptualising workers as system resource assets (i.e. alongside other resources such as hardware/infrastructure) that embody certain capabilities (i.e. alongside other capabilities such as defined processes) to contribute to the creation of service value (e.g. Cannon, 2011). This systems perspective, that rationalises, and thereby dehumanizes, workers within job design considerations, implicitly supports workforce management practices that focus less upon the ‘human’ and more upon the ‘resource’ element of ‘human resources’. The concerns of such a ‘hard’ HRM approach are on planned strategizing and control downwards through continuous measurement (Storey, 1992; Williams, 2002). Thus the associated strategic HR literature (e.g. Huselid et al, 2005; Boudreau and Ramstad, 2007) has implicitly discounted any concerns raised upwards by managers and professionals operating at the sub-strategic level (Spence and Carter, 2014) and to underplay the significance of workers’ individually-held tacit knowledge (Authors, 2014).

Within the IS environment, operational HRM practice often becomes subsumed within the more culturally-acceptable (being technocratically-rational) techniques of project management (e.g. McLeod and Smith, 1996; Schwalbe, 2010) or functional management (e.g. Schultz and Shumway, 2002). Within the project management approach to HRM, selection of ‘human resources’ is considered to be of critical importance with promotion of the same market-choice logic that is applied to selecting hardware being applied to selecting the workforce. For example, McLeod and Smith (1996) argue that since *‘the quality of performance of an individual persists through time... one of the most important responsibilities of a project manager is hiring staff’*. Their argument, that implicitly endorses a talent segmentation approach, is based on the rhetoric of ‘Pareto’s Law’ that 80 per cent of the best output comes from 20 per cent of the people. Their suggestion is that high performers remain high performers, low performers remain low performers, and only those in the middle might improve or worsen their performance; however, this fails to take account of workers’ experiences and specifically their opportunities to develop. As Feeny and Willcocks (1997: 467) note: *‘a lengthy immersion in IS enables the individual to build mental models which capture the fundamentals and provide a lasting base from which to interpret new developments’*. Where immersion is unevenly distributed by line managers then it is inevitable that some technical workers will develop more than others. That is not to argue that line managers should equally distribute developmental opportunities, but one might reason that it would be helpful for line-managers to have a rational model to support their decision-making, not least so that they don’t discriminate on irrational and/or unethical grounds such as gender or (perceived) disability.

This criticality of ‘immersion in IS’ for individual development also brings to the fore the uniqueness of workers’ experiences and thereby the uniqueness of each worker even when rationally defined by a common job specification. The suggestion here is that there is a need

for operational HRM practices to be flexible enough to nurture IT workers individually throughout the employment cycle.

Other appropriate operational HRM practices for IS professionals might be drawn from those deemed appropriate for professional workers (which share similarities with those deemed appropriate for knowledge workers). Most notably, there is a need to people manage technical professionals with a light touch so as to facilitate the autonomy needed to apply their superior technological expertise gained through practice to particular cases (Larson, 1977; Freidson, 1994). Another important feature of professional work is an expectation of continuing professional development at the individual level. Specifically, it is even more the case now than in earlier decades that *'the self-directed career [of the IS professional] has become the principal means of acquiring IS expertise'* (Scarborough, 1993, p. 947). As the pace of technological change continues to grow so *'skills extinction [as] a durable feature of technological advance'* (Sennett, 2006, p.98) has become an increasingly significant concern for the IS professional who wants to maintain their individual human capital (i.e. their skills, knowledge, and experience (Huus, 2015)) in the wider labour market (Barley and Kunda, 2004). Therefore, having the opportunity for ongoing skills development is important for individual IS professionals, and HRM practice should reflect this in order to motivate and retain key workers.

Worker Type	Tactical/Operational HRM practice				
	Job Design	Performance Appraisal	Learning and Development	Reward	Retention Considerations
Service Worker	<ul style="list-style-type: none"> • Procedural. • Workers empowered in dealing with customers. • Supervision/surveillance apparent. • Cooperative, customer-oriented ethic instilled. 	<ul style="list-style-type: none"> • Quantitative measurement to customer-oriented goals, including reliability and speed. 	<ul style="list-style-type: none"> • Emphasis on enhanced interpersonal communication skills. • Team-building exercises. 	<ul style="list-style-type: none"> • Celebration of 'success' as defined in managerial terms. • Customer recognition. 	<ul style="list-style-type: none"> • Implicit interchangeability with other workers available in the labour market.
Knowledge Worker	<ul style="list-style-type: none"> • Individualistic work within supportive teams. • Knowledge sharing encouraged. • Low supervision. • Dynamic organizational structure. • Little formulation of formal rules and procedures. 	<ul style="list-style-type: none"> • Qualitative as well as quantitative measures with emphasis on contribution to organisational goals. 	<ul style="list-style-type: none"> • Emphasis on learning through practice, 'stretch' tasks, and informal and formal knowledge sharing opportunities. 	<ul style="list-style-type: none"> • Recognition of the importance of respect and status. • Monetary reward seen as symbolic of contribution to organizational success. 	<ul style="list-style-type: none"> • Need to retain contextualised/ organizational knowledge embodied within the worker. Knowledge strategies might be employed to reduce risk associated with not retaining key knowledge workers.
IS Professional	<ul style="list-style-type: none"> • Conceived of as system 'resource' with defined role and responsibilities. • Formal processes but opportunity for autonomy within those processes. • Low or technological supervision. 	<ul style="list-style-type: none"> • Quantitative measurements as part of system performance measures. 	<ul style="list-style-type: none"> • Emphasis on investment in technical skills development to meet clearly-identified current or planned 'system' requirements. • Job rotation to broaden skills. 	<ul style="list-style-type: none"> • Involvement in interesting work leading to skills development and enhanced professional status. 	<ul style="list-style-type: none"> • Implicit interchangeability of appropriately credentialed (professionally-qualified) workers but in practice individual skills are seen as important and it might be more important to retain some more than others.

Table 1: Theoretically-devised HRM practices for different worker types associated with the IT service worker.

Research Methods

In the above sections (and Table 1) we have outlined how there are multiple perspectives that can be taken when selecting the most appropriate HRM practice to adopt in a ‘real world’ situation. Further, we have identified that sometimes these different perspectives offer contradictory guidance to line-managers. What then is required is for workers to be differentiated into segments so that line-managers might be guided to apply, on a more customized basis and for mutual organizational and worker benefit, the most appropriate operational HRM practice. Our research was thus designed from an inductive perspective to determine a set of identifiable IT service worker ‘talent segments’ for which different tactical or operational level HRM practices might be suggested to line managers, thus providing them with a pragmatic tool to guide their day-to-day management practice.

Our approach incorporated the collection of a significantly-sized qualitative data set comprising records from extensive overt, non-participant work observation of IT service workers, triangulated with records of interviews with IT service workers. In total 32 IT service workers participated in the study: 15 were observed and interviewed, 8 were observed (only), and 9 were interviewed (only). While those arguing for the strategic benefits of workforce segmentation are associated with the advocacy of quantitative human capital measurement (e.g. Likierman, 2005; Boudreau and Jesuthasan, 2011; Huus, 2015), there is a general acceptance that the qualitative dimension is essential for the pursuit of ‘evidence-based HR [that] is concerned with all the evidence, not just those things that can be easily counted’ (Boudreau and Jesuthasan, 2011: 207).

The researcher collecting the data (the first named author) approached the study from a position of having previously gained extensive experience working in IS professional environments for many years. This had the advantage of enabling in-situ interpretations of

the observed activity and for the interviews to be conducted from a perspective that incorporated shared understandings from within the occupational field (Schutz, 1953), thus offering benefits of insider research while retaining the objectivity of the outsider (Anderson, 2013).

Multiple visits were made over several months to five IT organisations in the UK over a combined period of 34 days, taking in nine different teams of IT workers. These organisations are anonymised here as: Poyet, a defence industry communications software company; the IT Services Division of Shire County Council (SCC), a local government authority; the UK operation of Server Control, a multi-national IT security services provider; the IT division of Stoneworks, a multinational aggregates company; and the IT services division of Midlands University, a mid-sized British University. Table 2 provides further details about the data collected for cross-case analysis such that findings might of greater validity than those from a single case study (Miles and Huberman, 1994).

Organization	Days Visited	Teams Observed	Workers Observed	Workers Interviewed
Poyet	5	1	2	3
SCC	12	3	9	10
Server Control	6	1	3	4
Stoneworks	7	3	4	4
Midlands University	4	1	5	5
Total	34	9	20	24

Table 2: Data Collection for study of IT service Workers.

During participant observation, the researcher made interpretative notes on what each observed worker did in their practice and what ‘knowledge’ or ‘know-how’ they used. This was done so that a picture might emerge of the variability of the complexity of the IT work observed and the depths and types of knowledge/know-how of the workers as a participant population. To illustrate the micro-level of the observational data collected and the type of

in-situ interpretation made by the researcher, the following example is offered: when observing at Server Control, one worker asked an IT user who had phoned in for support: *'Is it saying it is banned as a redirect?'* This question revealed to the researcher that the worker 'knew' an appropriate diagnostic question to ask at this juncture.

The data from the 24 interviews conducted in the workers' workplaces were triangulated with the observational data (and researcher notes recorded in a journal) to build a richer picture of the everyday experiences of IT service workers. The average length of these interviews was 36 minutes (range: 17-59 minutes). Nineteen participants were interviewed individually, two as a pair and three as a group. Semi-structured interviewing was selected to offer optimal flexibility for accessing the reflective meanings that the workers attached to their work that was inaccessible through observation (Bryman, 2001). As the research project progressed the questions asked varied such that a balance was struck between retaining control of the overall dataset for comparative analysis purposes while probing for deeper reflections and allowing individuals to reflect more tangentially. All interviews were recorded and fully transcribed. At the point of transcription, all interviewees were assigned pseudonyms appropriate to their heritage, gender and age.

For the purposes of this article, the data was analysed across three levels. At the first level the observation and interview datasets were analysed independently of each other. The observation data was inductively analysed with a particular concern for understanding about the knowledge/know-how used by IT service workers in their everyday practice. The interview transcripts were read multiple times to enable familiarity with the content (Murray, 2015) and to identify common and alternative worker perspectives on the nature of IT work and how they constructed their identities in relation to it. At the second level the first-level analysis of the observation and interview data were reflectively considered as one

triangulated dataset with a view to identifying ways in which the population studied might be classified.

Having identified different classification systems, a third level of analysis was applied in order to move towards the identification of worker segments that might be useful for customization of operational HRM practices. This entailed reflecting upon how the data pointed to specific relationships between the identified classification systems. The segments resulting from this interpretative analysis were then tested by returning to the data and considering which specific workers who were both interviewed and observed might fit into which segments so that operational HRM practices might be customized most appropriately by line-managers to encourage optimum levels of commitment and performance.

Throughout the analytical process, the authors of this article collaborated in order to enhance the reliability of the analysis (Mays and Pope, 1995) and validity of the segmentation process.

Findings, Analysis and Discussion

For this article our focus is on the second-level and third-level of analysis, as discussed above, that lead to the identification of talent segments to enable differentiated HRM practices. First-level analysis of the data (i.e. analysis of the observation data and interview data independently from the other) has been reported elsewhere (e.g. Author 1, 2013; Authors, 2014).

Second-level Data Analysis

At the second level of data analysis we were particularly looking for how the collected qualitative data might be interpreted as credible reflections upon the variable extents to which different workers within the same 'job family' might be considered as each of the three previously identified worker types. To this end we identified three classification systems that

might stand representative as comparative ‘measures’ of the degree to which specific workers might be considered as service workers, knowledge workers and IS professionals. As we report on each of these findings in turn we include a flavour of the first level analysis for illustrative purposes.

Classification 1: Service Worker (Customer Relationship Proximity)

The first finding was that IT service workers could be classified according to the extent to which workers had day-to-day dealings with the customer (Table 3). The workers with a high degree of customer contact were typically those structured within first-line service desk teams and who had defined procedural responsibilities for receiving customer requirements and then either fulfilling them or escalating them to a second-line team. The constant stream of customer contacts (typically by phone) significantly restricted the opportunities of these workers for development of their individual human capital as IT technicians. The IT service desks at Poyet and Server Control were single-line teams (i.e. without an escalation option) and as such, although they were the contact point for customers, they spent less time in communication with customers. As second-line teams, the Desktop Services teams at SCC and Stoneworks tended to only communicate directly with customers on the occasional visit they may to customers’ work locations.

Degree of customer contact	Teams
High	SCC Education Service Desk; SCC Corporate Service Desk; Stoneworks Service Desk; Midlands University Service Desk
Medium	Poyet Service Desk; Stoneworks Business Services; Server Control
Low	SCC Desktop Services; Stoneworks Desktop Services

Table 3: Classification of IT service workers by degree of customer contact (within team).

As strongly expressed across the interview dataset, for the vast majority of the workers in single-line and second-line teams, as well as several of those working in first-line teams

(typically those with IT educational credentials), the technical nature of the work took precedence over its customer-relational nature. However, those with a high degree of customer contact overwhelmingly cited the customer, and the receipt of customer gratitude, as being central to work satisfaction. This was in contrast to those with a lesser degree of customer contact who overwhelmingly indicated that it was the work itself that gave them most pleasure at work. The following representative extracts from interviews illustrate these contrasting perspectives:

- *‘when you do get a thank you, or that sort of thing, it just means the world to you because you go home feeling ‘oh yeah, I’ve really done a good job today’ (Barbara, first-line worker, Midlands University)*
- *‘resolving issues that have been difficult to solve gives a feeling of a job well done: I know I’ve worked hard at this and everybody’s happy; the user is happy and I feel I’ve worked hard to resolve this issue and it’s been an interesting one to burrow down to resolve’ (Dick, second-line worker, SCC)*

Classification 2: IS Professional (Individual Career Orientation)

The second classification system for IT service workers was particularly identifiable through analysis of the interview data. This dataset revealed IT service workers having different biases towards their careers, with three career orientations emerging from the data, which we refer to as ‘local’ and ‘cosmopolitan’ (after, Gouldner, 1957) and ‘servant’. These are similar to the classification system of Kinnie and Swart (2012) who identified a tension between workers’ orientations towards their organization (c.f. ‘local’), their occupation/profession (c.f. ‘cosmopolitan’) and customer (c.f. ‘servant’). Workers were identified from the data who had a distinct bias towards a ‘local’ career orientation in that they were strongly wedded to their employing organization, reflecting Whyte Jr’s ([1956], 2002: 3) concept of ‘The

Organization Man’ who not only worked for ‘The Organization’ but ‘*belong[ed] to it as well*’. Judy and Kate (first-line workers, SCC) fitted this category: at their joint interview they reflected on their long service at the council:

Judy: *We started off as punch operators*

Kate: *Oh, we’ve rose to great heights since then [both laugh].*

Judy and Kate’s bias in this classification system might more accurately be considered as being equally towards ‘local’ and ‘servant’ as they were also customer-oriented (unless the customer was rude or disrespectful to them). The key point here is that they were biased away from being ‘cosmopolitan’. Many of the workers, particularly those with formal IT credentials from educational courses or proprietary programmes (e.g. Microsoft Certified Professional), were more decidedly ‘cosmopolitan’, forming their identities in their professional competence. For example, Stephen (second-line worker, SCC) spoke of loving his job ‘*because I love technology and I love exposure to technology*’.

Classification 3: Knowledge Worker (Theoretical: Contextual Knowledge Bias)

The third identified classification system was a notable differentiation, across the observed population of IT service workers, in terms of the balance between theoretical knowledge (i.e. technical knowledge that has currency across organizations) and contextual knowledge (that doesn’t) used in everyday practice, as interpreted through close observation. For workers in some teams, knowledge/know-how employed in practice was interpreted as being primarily contextual, for others it was primarily theoretical and for others there was a balance between the two types. Full analytical details are provided elsewhere (Author 1, 2013), but are summarised at team level in Table 4 below:

Contextual Knowledge Bias	Balanced Knowledge Use	Theoretical Knowledge Bias
Teams on which workers	Teams on which workers	Teams on which workers

tended to work with a bias (>66%) towards contextual knowledge/know-how.	tended to work with a balance between theoretical and contextual knowledge/know-how.	tended to work with a bias (>66%) towards theoretical knowledge/know-how.
<ul style="list-style-type: none"> • Midlands University IT Service Desk • SCC Education Service Desk • Stoneworks Business Services 	<ul style="list-style-type: none"> • Stoneworks Service Desk • SCC Corporate Service Desk • SCC Desktop Services • Stonework Desktop Support • Server Control Service Support 	<ul style="list-style-type: none"> • Poyet IT Service Desk

Table 4: Classification of IT service teams by knowledge/know-how use in practice.

As a general rule, though with exceptions, workers in the second-line and single-line teams employed a higher ratio of theoretical to contextual knowledge than workers in first-line teams. A significant exception was the second-line business services team at Stoneworks. These workers were particular technical experts about a bespoke in-house system: they had gained their know-how about this system by working with it within the organization over time. This know-how was codified as being contextual as it did not have significant currency outside of the organization (i.e. in the wider labour market). This particular finding becomes significant at the third-level of analysis, discussed below.

Within the observed teams, individual factors were significant. For example, on the Midlands University IT Service Desk, Jonathan, who had IT educational credentials but was new to the team, supported Barbara with his technical knowledge/know-how. Barbara, on the other hand, did not have any formal IT educational credentials but had worked for the organization for many years and reciprocated by sharing her contextual knowledge of the organization with Jonathan as and when required. The significance of the contextual element was notable across the data. For example, although the Server Control IT Service workers were technically highly competent, they also depended upon contextual knowledge gained

slowly through practice. As Lionel (single-line worker, Server Control) remarked: *‘your average Joe Bloggs person... even with the greatest IT skills, couldn’t come in and be a pro from the off because it is a very specialized thing we do’*.

Third-level Data Analysis

From the three classifications identified at second-level analysis, we might move on to third-level analysis. Although from a mathematical perspective many segments might theoretically be identified by combining the three classifications, the purpose of this third-level analysis was to pragmatically identify segments that most fit with the data. Figure 1 figuratively represents this manually-conducted analysis.

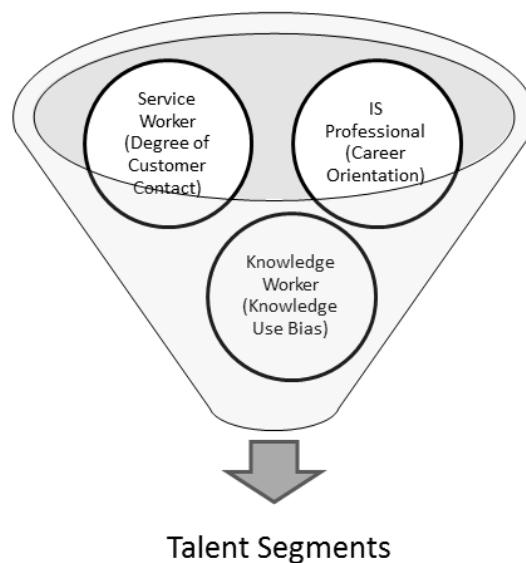


Figure 1: Third-Level Analysis to Identify Credible Talent Segments.

Initially, from holistic consideration of the data set, six identifiable talent segments emerged that could be ‘tested’ by specific consideration of individual research participant data. This ‘testing’ led to a reduction of the number of segments to four which we have labelled: ‘Reliables’; ‘Future Talent’; ‘Skilled Artisans’ and ‘Skilled Essentials’ [Two other segments

were dropped at this testing stage as the few workers identified for these segments just as easily fitted one of the remaining segments.]

These four talent segments can be presented in tabular form as reflections of the three classification systems (Table 5):

IT Service Talent Segment	Typical Primary Experience	Service Worker	Knowledge Worker	IS Professional
		Customer Relationship Proximity	Theoretical: Contextual Knowledge Bias	Individual Career Orientation
Reliables	Experience of working in the customer service roles	High	Contextual or Balanced	Servant or Local/Servant
Future Talent	Experience of education geared towards a career in IT	High	Contextual or Balanced in use <i>but</i> preference for Theoretical	Cosmopolitan
Skilled Artisans	Experience of working across different IT environments	Medium to Low	Theoretical	Cosmopolitan
Skilled Essentials	Experience of working within the organization's specific IT environment	Medium to Low	Contextual or Balanced	Local

Table 5: Identified IT Service 'Talent Segments' for Differentiated HRM Practice.

The workers in the 'Reliables' segment were identifiable as those who procedurally performed tasks that might have appeared to be objectively complex but that had over time become predictable and unfulfilling, offering little scope for ongoing continual/professional development. The workers in the 'Future Talent' segment were similarly restricted in their developmental opportunities but, typically having previously chosen to follow a specific educational pathway into IT, expressed particular frustration at the structural cap placed on their opportunities for technical-professional skills growth (Kanter, 1989). Typical of a 'Future Talent' was Jonathan (first-line worker, Midlands University) who expressed being

‘very frustrated’ because he had *‘a lot of ability to do stuff but just not having the tools and rights and access to do them’*. The ‘Skilled Artisan’ segment was identified as appropriate for those workers who had broad-based IT experience, typically across different organizations, and when observed, were fully engaged in their work and whenever time allowed adopted an ‘absolutist’ perspective (Sennett, 2009) to fully understand the issue at hand, often identifying additional or underlying problems as well as resolving the reported incident. The fourth segment, ‘Skilled Essentials’, emerged from reflection upon the work of the Stoneworks Business Services team (as mentioned above). These workers were technically highly competent but, because the complex technology they worked with was unique to the organization, that technical knowledge/know-how was inherently contextual such that within the organization they were vital human resources because ready-replacements were not available on the external labour market. Of course this also meant that if they were to be cut adrift from the organization they would have little in the way of individual human capital to offer the labour market.

Customization of Operational HR practices

Having identified four talent segments that this research suggests might be appropriate for managing IT service workers differentially we are better positioned to apply the most appropriate practices to those different segments. Thus for example, the risk of losing workers who fit into the ‘Future Talent’ segment might be militated against by implementing a targeted job shadowing initiative with objectives to develop their individual human capital; or greater (i.e. differentiated) efforts might be made to retain a worker in the ‘Skilled Essentials’ segment who tenders their resignation.

Table 1 above outlined HRM practices suggested by the literature for service workers, knowledge workers and IT professionals. The guidance for managing these types of workers

was considered to be of limited use for managing IT service workers, which are all of these worker-types, because the guidance was often contradictory. By following a systematic process, we were able to segment IT service workers based on the ‘reality’ of their practice as informed by our qualitative research. This provides the opportunity to draw upon the guidance previously considered so that HRM practices might be customized appropriately for each identified segment. At Table 6, mirroring the layout of Table 1 and drawing upon the literature-informed guidance contained in it, we suggest a range of specific HRM practices that might be appropriate for the four identified ‘talent segments’ from this study.

IT worker Talent Segments	Suggested HRM Practice				
	Job Design	Performance Appraisal	Learning and Development	Informal (non-contractual) Reward	Retention Considerations
Reliables	<ul style="list-style-type: none"> Cooperative, customer-oriented ethic instilled. Empowerment to deal with customers within procedural guidelines. Supportive 'expert' team leader. Procedural with defined role and responsibilities. Job variety / rotation. 	<ul style="list-style-type: none"> Quantitative: measurements as part of system performance measures (e.g. speed and reliability of response). Qualitative: contribution to the team ethic. 	<ul style="list-style-type: none"> Interpersonal communication skills. Team-building exercises. Opportunities to develop technical skills. Opportunities to broaden contextual/ organizational knowledge. 	<ul style="list-style-type: none"> Management recognition (at team and individual level). Customer recognition. Career development opportunities within the organization. 	<ul style="list-style-type: none"> Departure may represent relatively low risk to current or future organizational capability.
Future Talent	<ul style="list-style-type: none"> As 'Reliables' plus... Greater emphasis on job variety / rotation. Opportunities for knowledge sharing. Formal processes but some opportunity for autonomy within those processes (i.e. appropriate relaxation of procedural constraints).. 	<ul style="list-style-type: none"> As 'Reliables' 	<ul style="list-style-type: none"> As 'Reliables' plus... Opportunity to work with more experienced 'experts'. Appropriate formal technical training courses. 	<ul style="list-style-type: none"> Opportunity to be Identified as 'talent' for succession planning. Technical skills development (e.g. through selection for technical training and involvement in 'stretch' work). 	<ul style="list-style-type: none"> Departure may represent significant risk to future organizational capability as may have been recruited as credentialed 'talent' to be developed.
Skilled Artisans	<ul style="list-style-type: none"> Autonomy on how to approach work assigned by the system. Autonomy to generate 'new' work. Low supervision by respected 'expert' or self-managing. Protection from administrative duties 	<ul style="list-style-type: none"> Quantitative: measurements as part of system performance measures (e.g. speed and reliability of response). Qualitative: contribution to organisational goals and reputation. 	<ul style="list-style-type: none"> Opportunity to learn and develop through 'practice'. 'stretch' tasks Job rotation to broaden skills. Appropriate formal technical training courses. 	<ul style="list-style-type: none"> As 'Skilled Essentials' plus... Involvement in interesting work leading to marketable skills development and enhanced professional status. 	<ul style="list-style-type: none"> Departure may represent medium risk to current organizational capability as, although suitable replacements might be available in the labour market, they might take time before performing similarly.
Skilled Essentials	<ul style="list-style-type: none"> As 'Skilled Artisans' 	<ul style="list-style-type: none"> As 'Skilled Artisans' 	<ul style="list-style-type: none"> Learning through taking a prominent advisory role in 'new' projects. Informal and formal 	<ul style="list-style-type: none"> The affording of respect and status. [N.B. monetary reward seen as symbolic of 	<ul style="list-style-type: none"> Departure may represent high risk to current and future organizational

			<p>knowledge sharing opportunities.</p> <ul style="list-style-type: none"> • Appropriate formal technical training courses. 	contribution to organizational success.]	capability as likely to have developed key contextualized knowledge over time and replacements are not available in the labour market.
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Table 6: Talent Segment Management Decision-Support Tool: Suggested Differentiated HRM Practices for IT Service Worker 'Talent Segments'

Contributions and Limitations

The core contribution of this article relates to the socio-economically important and under-researched domain of IT service work. The managerial processes of rationalisation that are employed as ‘best practice’ in this domain (Authors, 2014) severely undervalue the contribution that expert HRM practice might offer to organizational competitiveness. This article points to how worker segmentation might be employed at a sub-strategic level to improve the productivity of the human resources and reduce the risk of losing key talent through neglect of personal developmental requirements. Specifically, it provides a ‘Talent Segment Management’ tool to support line-managers when making a range of tactical and operational HRM decisions concerning job design, performance appraisal, learning and development, informal reward systems, and retention (Table 6). The tool will, of course, benefit from being tested in the field by managers with direct responsibility for managing IT service workers.

A broader theoretical contribution of this article is to the HRM literature in the presentation and illustration of a pragmatic qualitative method by which workers who have already been ‘partitioned’ (Townley, 1994) (e.g. into a job family) might be segmented into groups (Ziskin, 2015) to which customized HRM practices might be applied so as to optimise the appropriateness of those practices in particular circumstances for mutual worker and organisational benefit.

The research process, which we might term the ‘Talent Segment Identification Process’, was exploratory and implicitly inductive. However we can retrospectively reflect back upon it to chart that process as a ‘Talent Segment Identification’ process model (Figure 1) that is a contribution to theory and offers a practical approach for management practitioners and HRM researchers wanting to segment other identifiable groups of workers (e.g. ‘job families’).

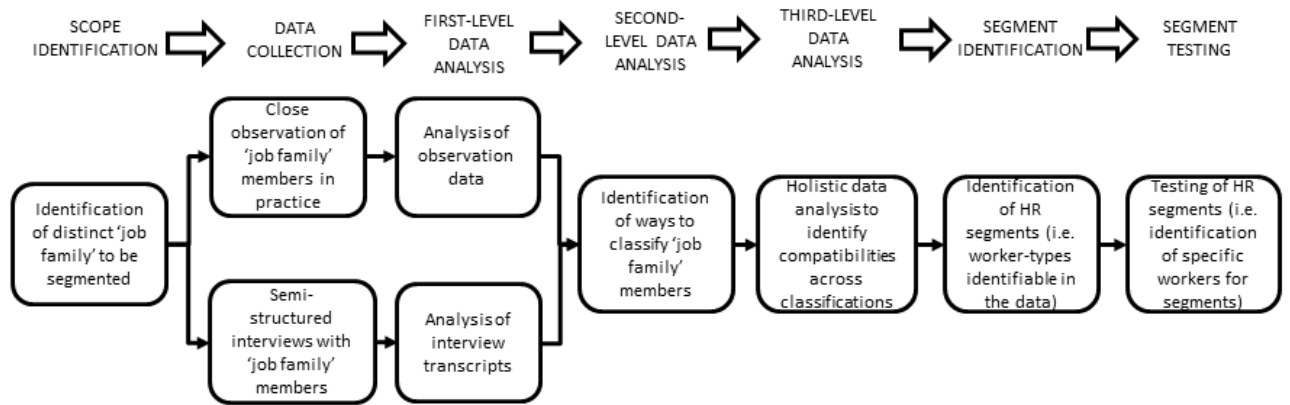


Figure 2: Talent Segment Identification Process Model

There are limitations to the process, notably its reliance upon: (i) the collection of data being sufficient to reliably classify and then segment workers; and (ii) appropriately valid interpretations being made of that data. For this study, consideration was not given to classifying by demographic data typically recorded as part of standard HRM processes, e.g. gender, age. Such factors might be explored, with appropriate ethical consideration, as being potentially useful in segmenting workers. Other classifications might be formed through analysis of performance management data, perhaps with a particular concern for identifying disproportionately high (and low) performers in line with McLeod and Smith's (1996) 'Pareto's Law' argument that 20 per cent of the workers should be identified as key talent. When notionally assigning a worker to a segment for operational-level decision-making on a 'learning and development' matter, the educational qualifications and continual professional development history of that worker might particularly be usefully considered

Conclusions

This article responds to calls for more customizable HRM practices (e.g. Ziskin, 2015) by applying focus to a specific job family: IT service workers. It was noted that IT service workers in the 'real world' might be identifiable as different types of worker, specifically

service worker, knowledge worker and IS professional. Different HRM guidance is available for managing each of these worker types but such guidance is often contradictory, resulting in the potential for operational-level dilemmas for line-managers. With a view to addressing this problem, a process for segmenting workers by means of a rigorous qualitative research approach has been outlined and findings and analysis from this research presented, resulting in the identification of four segments into which any given member of the IT service worker ‘job family’ might be assigned to at any given moment. Finally, we demonstrated the value of this process by presenting an illustration of how segmented HRM practices might then be applied by a line-manager with flexibility by referring to a ‘Talent Segment Management’ decision-support tool (Table 6) with implied benefits for organizational productivity/competitiveness.

This decision-making support tool also serves as an illustrative template for similar tools to be created in a similar fashion by implementation of the ‘Talent Segment Identification Process’ (Figure 2) that was a retrospective product of the inductive research method used here. Thus, this process makes a specific contribution to the HRM literature concerning workforce segmentation. This literature has hitherto been associated with strategic human capital theory that aggrandises ‘shareholder value’ accountancy perspectives and HR data analytics (e.g. Huselid et al, 2005; Boudreau and Ramstad, 2007; Boudreau and Jesuthasan, 2011). Such perspectives have often been met with resistance from an established HR profession that is steeped in broader stakeholder perspectives that advocate the importance of subjective concern for worker welfare at the sub-strategic level. As such the HR profession has maintained an underlying scepticism towards the detached objectivity towards human ‘resources’ that is inscribed within the products of a HR data analytics industry that is rhetorically promoted by a management consultancy industry with shared vested interests. As Angrave et al (2016:7) point to, because HR professionals have not been involved in the

design decisions of HR analytics tools, labour is modelled as a fixed cost that needs to be controlled: i.e. there is no recognition that productivity and performance change with skills, motivation and the sub-strategic design of people-process interactions. The ‘Talent Segment Identification Process’ encourages a spirit of rapprochement between these conflicting perspectives. The process is on the one hand systematic and offers a pathway to implementing differentiated HRM practices for ‘talent segments’ to optimise human capital productivity, thus benefiting shareholder value; and on the other hand it acknowledges the importance of the qualitative dimension (in a way that HR analytics does not) and that sub-strategic level HR professionals and line-managers might be trusted to operate with autonomous flexibility in the management of individual workers.

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