

Human Capital and Team Performance

Bill Gerrard, Leeds University Business School, UK

Andy Lockett, Warwick Business School, UK

Management/leadership

Thursday, May 30, 2013

**20-minute oral presentation
(including questions)**

Abstract 2013-008

8:55 AM

(Room 404)

Empirical assessment of the resource-based view (Barney, 1991) has proved problematic because the resources of central concern are commonly unobservable. One resource class which has received considerable attention is human capital (Becker, 1962) defined as the knowledge and skills of workers. We examine the relationship between human capital and performance focusing on teams as our unit of analysis. General (or non-specific) human capital is equally valuable to all teams, and hence its value is independent of the team in which it is employed. In contrast, specific human capital is most valuable when deployed in the context in which it was developed. We focus on the importance of team specific human capital (TSHC). We define TSHC as the skills and knowledge team members develop through interacting with one another, which are fully valued only in the specific context of the team in which they were developed. The accumulation of team-specific skills and knowledge may enhance the performance of a team as individuals learn to work more effectively with one another. TSHC is an important concept from a strategy perspective as it may underpin a position of sustainable competitive advantage. TSHC cannot easily be re-deployed between teams because its value is dependent on a specific team context (the one in which it was developed). Drawing on the work of Berman et al. (2002) and Huckman et al. (2009), who differentiate between the different roles that individuals may perform in a team, we contribute to theory by arguing that TSHC should be conceptualized as a multi-dimensional concept. We focus on two dimensions of TSHC. First, we suggest that TSHC comprises a relational dimension, which is generated through the shared experience of team members. Second, we argue that TSHC comprises a managerial dimension, gained through the shared experience of the manager working with current team members and managing their shared experience. Although the relational element of TSHC may have an independent effect on team performance, the managerial dimension of TSHC cannot exist independent of the relational dimension. Simply stated, managers require a team to manage, consequently their experience TSHC is specific to a team. Hence, we suggest that the managerial dimension of TSHC is best captured by the construct of managed-relational TSHC, which captures the shared tenure of both the manager and members in a team.

Hypotheses

H1: Ceteris paribus, relational TSHC will be positively related to team performance; however, performance increases will diminish with increasing relational TSHC and may become negative for high levels of relational TSHC.

H2: Ceteris paribus, managed-relational TSHC will be positively related to team performance; however, performance increases will diminish with increasing managed-relational TSHC and may become negative for high levels of managed-relational TSHC.

H3: Ceteris paribus, the performance effects of managed-relational TSHC will be greater than those for relational TSHC alone.

Data and Methods

Our data consists of a panel of ten seasons, 1996/97 – 2005/06, of the FA Premier League in England, the top domestic soccer league based on revenues and global TV viewing figures. With 20 teams in the league each season, this yields a sample size of 200 team-season observations. The research site is particularly appropriate for testing for performance effects since it is a highly competitive and incentivised environment with competition in both the production and market processes and a merit hierarchy with promotion and relegation.

The dependent variable is TEAMPERF, the total number of league points attained as a proportion of the maximum available. The two target variables are REL TSHC, relational TSHC measured as team shared experience at the start of the season, and MAN-REL TSHC, managed-relational TSHC measured as the product of REL TSHC and COACHEXP, the head coach's total length of tenure with the team (defined as total number of games in charge at start of the season). Eight models are estimated. Control variables comprise general HC variables (RELWAGE, AGE, TOTEXP) and

2013 North American Society for Sport Management Conference (NASSM 2013)

dynamics (PREVPERF, PROMOTED).

Results and Discussion

Model 1 shows that all the general HC variables are statistically significant at the 1% level and jointly explain 63.3% of the variation in team performance. The quadratic effects for both age and experience are statistically significant. Age is found to have an inverted U-shaped relationship with team performance with the marginal effect of an increased average age in the team diminishing and then becoming negative. This is consistent with the suggestion that total wage costs may be less reflective of on-the-field sporting ability for older players. The experience effect exhibits a U-shaped relationship with team performance.

Model 2 introduces REL TSHC which has a significant positive impact on team performance. This supports the first part of H1 that there is a positive relationship between REL TSHC and team performance.

The REL TSHC effect is modelled in quadratic form in Model 3 but is found to have an insignificant impact on team performance. Thus we conclude that there is no evidence to support the second part of H1 that the positive performance effect of REL TSHC will diminish as REL TSHC increases. Indeed the inclusion of the quadratic term actually reverses the direction of the effect at low levels of REL TSHC, raising doubts about the validity of including REL TSHC independently of managerial effects.

Model 4 follows Model 2 in treating the REL TSHC effect as linear but employs a dynamic specification to deal with the significant residual autocorrelation present in Models 1 – 3 and replicating the finding of Berman et al. (2002). REL TSHC is statistically insignificant. And the magnitude of the estimated effect is only around half of that found in Model 2. Both the dynamic variables, PREVPERF and PROMOTED, are highly significant. Overall Model 4 provides better goodness-of-fit properties than Model 2. The AR(1) diagnostic test statistic is insignificant in Model 4, supporting the contention that the residual autocorrelation in Models 1 – 3 is due to dynamic mis-specification. The reduction in the magnitude of the REL TSHC effect and its statistical insignificance suggests that team shared experience effects may be acting as a proxy for dynamic effects in static models and these effects diminish greatly once the dynamic effects are modelled directly through lagged performance. Again the evidence raises doubts about the validity of modelling relational TSHC separately from the managerial effects.

Model 5 is the basic MAN-REL TSHC model of team performance using the quadratic form. The MAN-REL TSHC variables are both highly significant with the linear term having a positive effect and the squared term a negative effect, implying an inverted-U-shaped relationship between MAN-REL TSHC and team performance. Model 5 provides clear support for both parts of H2 that MAN-REL TSHC has a positive but diminishing effect on team performance. Comparing the results of Model 5 with the estimated static model of REL TSHC in linear form (i.e. Model 2), provides strong confirming evidence for H3 that the MAN-REL TSHC effect will dominate the REL TSHC effect. The R² for Model 5 is 66.1% compared to 64.1% for Model 2. The standard error of regression is also smaller for Model 5. The dominance of the MAN-REL TSHC effect over the REL TSHC effect is also evident in Model 6 when the linear REL TSHC variable is added to Model 5. The REL TSHC effect is highly insignificant whereas the MAN-REL TSHC effects remain highly significant with the magnitude of the effects little affected by the addition of the REL TSHC variable. Model 6 also has a higher standard error of regression than Model 5 reinforcing the evidence for H3. Having established that the MAN-REL TSHC effect in quadratic form is sufficient on its own to model the TSHC effect on team performance, we estimate Models 7 and 8 to explore the appropriate form of Model 5 to deal with the residual autocorrelation. Model 7 uses a dynamic model including PREVPERF and PROMOTED. Both variables are highly significant and render the AR(1) diagnostic test statistic insignificant. Compared to Model 5 there is better goodness-of-fit properties. The magnitude of the estimated coefficients on the MAN-REL TSHC variables are slightly reduced but both remain highly significant. Unlike the REL TSHC variable, there is clear evidence of a significant MAN-REL TSHC effect even after the inclusion of dynamic effects.

Model 8 provides the fixed-effects panel estimate of the quadratic MAN-REL TSHC effect. Again this provides an effective solution to the residual autocorrelation problem with the AR(1) diagnostic test statistic at its lowest level across all the estimated models. Notably, the estimated coefficients for both MAN-REL TSHC variables are greater than in either the static Model 5 or dynamic Model 7. This provides strong support of the crucial impact of managed-relational TSHC on team performance even after controlling for both general HC and organizational capital. Model 8 is our preferred model of the managed-relational TSHC effect on team performance.

2013 North American Society for Sport Management Conference (NASSM 2013)

Conclusions

We have explored the concept of TSHC and differentiated between the roles of team members and team manager, and how they may influence the accumulation of TSHC. To date, the effects of the managerial tenure with a team have been modelled as an independent effect on team performance. We argue that the managerial dimension of TSHC can only be developed through the shared experience of the manager working with a team. Therefore, the managerial aspect of TSHC can only be properly captured through the creation of the concept, managed-relational TSHC. We view this as an important contribution to understanding how managerial tenure with a team may enhance team performance.