

# Coach succession and team performance

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# Coach succession and team performance; the impact of ability and timing; Swedish Ice hockey data

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## Abstract (1)

- Purpose: Identify a function for the team performance for professional ice hockey teams in Sweden
- to understand how team performance relates to key variables such as coaching ability and coaching experience and succession
- The OLS (Ordinary Least Squares) and the more robust quantile regression techniques were used
- to estimate the team performance for the ice hockey teams

## Abstract (2)

- Results:
- Coaching ability has a rather significant effect on team performance
- Managerial succession during season has a significant negative effect on team performance
- Strong correlation between coaching ability and team performance
- Quantile regression provided a better understanding regarding the dynamics of the factors that affect performance

## Effect on organizational performance (1)

- Bad organizational performance (failure ascribed to the coach) → Change in coach position
- The effect of managerial succession on organisational performance remains a debated issue
- At least three theories about the relationship of succession to organisational performance.
  - Succession improves performance
  - Succession disrupts performance
  - Succession has no effect on performance

## Effect on organizational performance (2)

- Timing of change = important
- Change during season
  - Great disturbances in the team
  - Players and new coach need to adjust and get used to each other
    - as the season is in progression
  - Might improve in comparison with performance prior to change
  - But teams without change show greater improvement
- Change between seasons – no effect
- During season – deterioration in performance
  - Time before realistic improvement
  - Short – long term
  - Adjustment gradually

## Studying performance in business organizations?

- What should the measures be?
- In sports teams
  - Succession measures available
  - Relatively easy to interpret
- Objective measures of team performance
- Results applicable to the performance of other types of organizations?

## The current study

- Replicates and extends past studies
- Ordinary least squares (OLS) and Quantile regression techniques – instead of descriptive statistics and generalize least squares (GLS)
- Swedish ice hockey teams continually 1975/76 – 2005/06
- 360 team seasons
- 128 coaches
- 186 unique coach-team combinations
- Quarterly data

## Variables selection

- Quality of players
  - Star players – financial resources
  - Discussed, but not chosen
- Key role of the coach
  - Often most important position in any club
  - Primary architect of the team
  - Single person most responsible
  - Succeed with very different leadership styles
  - Success with one team, failure with another
  - Ability to recognize outstanding potential – before it is fully developed
  - Ability to mix players in effective team combinations

## Measures

- Team performance
  - Percentage of games won during a season
- Coaching ability
  - Cumulative win/loss records (percentages of games won prior to succession)
- Coaching experience
  - Cumulative records of games as head coach
- Dummy variable for succession
  - Total succession
  - Succession during season
- Lagged dependent variable

## Estimation methodology

- Estimating the model using quasi-panel methodology
- Examination of the data
  - Non-normally distributed
  - Highly skewed
  - Performance distribution not robust to the presence of outliers
- Quantile regression
  - Intended to estimate and conduct inferences about quantile functions
  - Less sensitive than linear regression methods to outliers and departure from the normality assumption
  - Estimation of the 10th to 90th percentile

## Results (some examples)

- The performance of the Leksand team, from period to period, fluctuates more than the performance of the other teams do. Färjestad shows the most stable results.
- Coaching ability has a stronger linear relationship with performance ( $r = 0.77$ ) than the other factors for five of the six teams.
- The OLS results for this team show that, in addition to coaching ability, coach succession during seasons is also shown to be significant but with a negative effect.
- The total coach succession is also negative, but rather significant on the 10% significance level.

## Summary (1)

- The specific aim in this study was to identify the relationship between team performance and succession
- In addition to factors such as coaching ability, coaching experience and the succession event that may influence performance.
- The main purpose was to provide additional empirical evidence by measuring the performance of six Swedish professional ice hockey teams.
- In order to understand how team performance relates to key variables such as coaching experience, coaching ability and succession, the OLS and the quantile regression techniques were used to estimate the performance for the ice hockey teams.

## Summary (2)

- The results have shown that coaching ability has a rather significant positive effect on team performance
- They have also shown that coaching experience has some statistically significant positive effect on team performance on some levels of performance.
- The results do indicate some statistically significant negative effect succession in general on team performance on some levels of performance.
- Meanwhile, succession during season is found to have a rather significant negative effect on team performance.

## Conclusions (1)

- Results confirmed the hypothesis that the coaching ability is in fact an important predictor of team performance.
- This research also helped to disentangle the two theoretical problems mentioned at the beginning of this article that are associated with succession.
- Some previous studies, which have studied the effects of succession events themselves, have suggested that succession cannot significantly affect organisational performance.

## Conclusions (2)

- This research indicates that the question of whether a change in coach affects team performance cannot be answered by merely looking at team performance before and after succession.
- Instead, investigators should examine conditions surrounding successions and the characteristics of coaches, particularly coaching ability and the timing of the succession.

Table 2 Correlations for all variables (n = 120)

<b>Club/ performance</b>	<b>Coach ability</b>	<b>Coach experience</b>	<b>Total succession</b>	<b>Succession during season</b>
<b>Leksand</b>	<b>0.77</b>	<b>0.04</b>	<b>- 0.42</b>	<b>- 0.42</b>
<b>Brynäs</b>	<b>0.74</b>	<b>-0.17</b>	<b>- 0.21</b>	<b>- 0.11</b>
<b>Djurgården</b>	<b>0.75</b>	<b>0.95</b>	<b>-0.00</b>	<b>-0.12</b>
<b>Färjestad</b>	<b>0.72</b>	<b>0.08</b>	<b>- 0.13</b>	<b>- 0.23</b>
<b>Frölunda</b>	<b>0.75</b>	<b>0.19</b>	<b>- 0.07</b>	<b>- 0.20</b>
<b>Modo</b>	<b>0.73</b>	<b>0.06</b>	<b>- 0.18</b>	<b>-0.15</b>

Table 3. The OLS method results for Leksand

R2=0,67	Constant	X1	X2	X3	X4	Y(t-1)
Coeff	36.46	0.092	-0.840	-5.924	-14.504	0.056
Std Err	8.64	0.009	0.754	3.581	5.844	0.062
P-value	0.000	0.000	0.268	0.1.1	0.015	0.367

Table 4. The Quantile regression results for Leksand

20% R2=0,67	Constant	X1	X2	X3	X4	Y(t-1)
Coeff	25.875	0.077	-0.611	-3.417	-16.984	0.064
Std Err	17.643	0.026	1.523	7.807	12.873	0.116
P-value	0.146	0.004	0.689	0.663	0.190	0.583

# OLS results for Leksand

	Positive effect	Negative effect	Significant level
Coaching ability	√		Yes
Coaching experience		√	Non
Total succession		√	Non
Succession during season		√	Yes

# Quantile regression methods results (20%) for Leksand

	Positive effect	Negative effect	Significant level
Coaching ability	√		Yes
Coaching experience		√	Non
Total succession		√	Non
Succession during season		√	Yes

# Quantile regression methods results (50%) for Leksand

	Positive effect	Negative effect	Significant level
Coaching ability	√		Yes
Coaching experience		√	Non
Total succession		√	Non
Succession during season		√	Non

# Quantile regression methods results (80%) for Leksand

	Positive effect	Negative effect	Significant level
Coaching ability	√		Yes
Coaching experience		√	Non
Total succession		√	Non
Succession during season		√	Non

# Summarizing results for Leksand

	Coaching ability	Coaching experience	Total succession	Succession during season	Lagged performance
Correlation	+ Sign		- Sign	- Sign	Non sign
OLS	+ Sign		- Sign	- Sign	Non sign
QR Low performance	+ Sign	Non sign	Non sign	Non sign	Non sign
QR High performance	+ Sign	- Sign	- Sign	- Sign	Non sign

## General conclusions

- Coaching ability has a positive effect on team performance
- Coaching experience has a limited positive effect on team performance
- Succession in general has a limited negative effect on team performance
- Succession during season has a negative effect on team performance