Diversity and Innovation in Australian Workplaces

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Diversity as a Force for Innovation & Growth

The Australian government has recently put "innovation" at the forefront of its agenda, identifying the promotion of entrepreneurial cultures, the establishment of closer links between the industry and research sectors, the acquisition of STEM skills in the workforce, and the leading role of the government, as four main drivers for innovation (National Innovation and Science Agenda, 2016). While there is little doubt about the important roles of these four areas, the agenda seems to overlook an untapped advantage of the Australia's workforce matched only by a few other countries, that is, "diversity".

With 43.1% of Australians having at least one overseas born parent (Abs.gov.au, 2016), Australia is diverse i.e. it's distribution of gender and ethnicity (Jackson, Joshi & Erhardt, 2003; Pelled, Eisenhardt, & Xin, 1999) is considerably high. With this being said, Australia's diversity is not accurately represented in its business sector. As of June 2016, women represent only 23.4% of seats on ASX200 boards (Companydirectors.com.au, 2016). In addition to this, only 22.2% of directors, 21.9% of CEOs and 19.9% of senior executives of ASX200 companies are people from non-Anglo-Celtic origins (Dca.org.au, 2016a).

The wide diversity gap is a considerable issue for Australia. Empirical studies indicate that firms who embrace ethnic and gender diversity enjoy numerous benefits. These include, better utilisation of organisational talent, increased marketplace understanding, as well as enhanced creativity and problem solving capabilities within their teams (Salter et al. 2008; Hoogendoorn et al., 2013; Ozgena & de Graaff, 2013; Diaz-Garcia & Gonzalez-Moreno, 2013). Gender-diverse firms have, additionally been identified by Mckinsey & Company (2015) to be 15% more likely to outperform non-gender diverse firms. They also found that ethnically-diverse firms are additionally 35% more likely to outperform their counterparts. Diversity lastly has been shown to reduce the likeliness of groupthink (Cox & Blake, 1991). It thus

facilitates the emergence of more innovative outcomes (Ozgena & de Graaff, 2013; Diaz-Garcia & Gonzalez-Moreno, 2013).

While the economic benefits of diversity are empirically clear, the fact remains that Australia's diversity is not represented in the business sector. This evidence leaves us with an intriguing question: If Australian for profit firms' main objective is to maximise profits, why do they not embrace diversity? In what follows, we argue that there are reasons for the lack of workplace diversity in Australia even in the absence of racist and sexist attitudes. Specifically, we will argue that the lack of diversity can be driven solely by the risk attitudes of firms and the dynamics of the labour markets. We further explain why the interplay between personal and professional networks plays an important role in fostering or impeding diversity in the workplace. Based on our analyses of these three factors, we suggest various recommendations to increase workplace diversity and in turn, boost Australia's innovation and productivity.

Overlooked Reasons for the Lack of Workplace Diversity

As a general rule, what holds true in static environments does not need to hold true in stochastic or dynamic environments. In this first narrative, we argue that if firms are risk-averse, they may opt for candidates with lower productivity but whom they can assess more precisely.

Imperfect Assessment of Minority Candidates

A channel through which HR professionals can update their beliefs about the relationships between certain applications details and ability or fitness to the firm is via the records of previously accepted candidates. Thus, an applicant with familiar application details, i.e. one that shares many similarities with the applications of those previously accepted, will be more precisely assessed and in turn, has higher chance of being accepted into the firm. For example, if a firm has traditionally recruited many Caucasian male candidates, it can assess a Caucasian male candidate better than it can assess a female candidate from an ethnic minority. Thus, even when the female ethnic candidate has higher expected productivity than the Caucasian male candidate, the imprecision in the prediction of her performance may drive a risk-averse HR

professional/firm to choose the latter candidate. Morgan and Vardy (2006) model a related situation. They assume that job candidates are from different subpopulations defined by their "discourse systems", which are largely determined by cultural and social backgrounds. They further assume that candidates from minority groups, because of their uncommon discourse systems, convey to the recruiter noisier messages about their ability. Therefore, it is harder for these groups of applicants to affect the recruiter's prior beliefs. Importantly, they find that if the recruiter is "selective", in the sense that the posterior probability that the accepted applicant is fit for the job must be higher than some threshold, applicants from minority groups will be underrepresented in equilibrium. Ultimately, the imperfect assessment of candidates from minority groups creates a barrier to diversity and thus a barrier to the establishment of an innovative culture.

The Current Stock of Workers Matters in Dynamic Recruitment

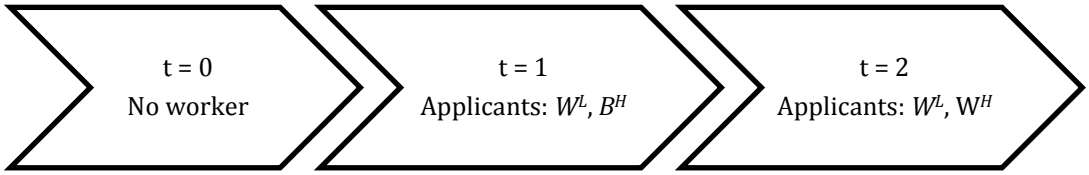
The second narrative is based on the assumption that a heterogeneous group outperforms a homogeneous group only if all workers in the former group embrace differences. Therefore, if the workforce is largely not collaborative, a firm may employ workers that are similar to its current employees against the risk of internal conflicts, even when it can perfectly assess each applicant. Using a simple two-period model, we will argue that this tendency potentially results in ex-post inefficiency.

Consider a firm recruiting workers over two periods. At time $t = 0$, the firm has no worker; at time $t = 1$, a group of workers apply to the firm and the firm can choose a subset of this group; at time $t = 2$, the firm can choose to fire some workers to create more available positions at the firm, then a group of potential workers apply and the firm can choose from this pool of applicants. The payoff to the firm depends on its productivity in both periods, and its productivity in each period depends on the group of workers employed in that period. We assume that the firm can employ at most two workers in each period.

Assume that workers have four types: W^H, W^L, B^H, B^L, where W and B denote the worker's background, and the superscript denotes whether the worker can (H) or

cannot (L) collaborate with someone from a different background. The static preference of the firm in each period specifies that two workers are better than one worker, and the pair (W^H, B^H) is the most productive among all pairs of workers. That is, employing two collaborative workers from different backgrounds is best for the firm. However, it is worse to employ a pair of workers from diverse backgrounds when at least one of the two is not collaborative than to employ any pair of workers from the same background.

The following diagram illustrates a possible realisation of the pools of applicants in both periods.



Given the firm's static preferences, it is easy to see that it will employ both applicants in period one. At the beginning of period two, there is a chance p that some W^H applies to the firm, but there is also a probability q that only those of type W^L will apply to the firm. The firm then faces a dilemma: keeping B^H allows the possibility of obtaining the best group of workers but it also runs the risk of ending up with a discordant group of workers. Suppose that p is sufficiently low and q is sufficiently high, the firm may choose to fire B^H to make room for a type W^L worker likely to apply for the position in period 2. Given this strategy by the firm, when it turns out in the second period that a W^H applies (as in the diagram), the firm chooses this worker and the resulting set of workers is (W^H, W^L) while it would have been (B^H, W^H). This illustrates that when the prior suggests that few workers are able to collaborate, firms have a tendency to keep workers from the majority group. This difficulty in recruiting a diverse set of workers is a more serious problem for small firms. The main reason is that large firms often recruit a higher number of workers in each recruitment cycle, and they can select from a larger pool of applicants. Therefore, admission decisions will be less dependent on the current stock of employees. Another aspect is that by recruiting a larger number of workers, large firms can average out the risks involved

in recruiting workers with less familiar backgrounds, so large firms are also less prone to the type of recruitment decisions illustrated in this story.

Social Segregation across Personal and Professional Networks

The final narrative is based on a stylised fact in the labour market that personal contacts play a crucial role in the recruitment process. That is, firms are often made known of potential candidates via endorsements from current employees (Granovetter, 1974). On one hand, relying on endorsement for recruitment reduces potential uncertainty in the recruitment process. On the other hand, it presents an impediment to diversity in firms, a situation that is worsened by the unending feedbacks between personal and professional networks. The idea is that if "homophily" – the tendency to associate with people like oneself – is prevalent in personal networks, then this tendency will also be prevalent in professional networks. If no external force enters, the interactions between these two networks will result in even more segregation. Calvó-Amengol and Jackson (2007) investigates another channel through which social networks affect employment, that is, the transmission of information about job opportunities. With this idea, they study the dynamics of both employment status and wages. They find that even when the short-run competition for job information among path-connected people is accounted for, there is a positive correlation in both wages and employment across time and connected agents. Put it simply, a person is more likely to be employed and earn higher wages if those to whom he is connected also are employed and earn high wages.

Recommendations

Given the important role of workplace diversity in increasing innovation and growth, more efforts should be paid on solutions that enhance diversity. Instead of suggesting making the promotion of diversity a fifth pillar in the innovation agenda, we think it is best to integrate this mission into several of the pillars that the agenda already identifies.

First, with respect to "Culture and Capital", the agenda suggests using tax incentives to compensate for the risks involved in the implementation of new ideas (National

Innovation and Science Agenda, 2016). Since the collaboration of a diverse group of people fosters the creation of new ideas but the process of employing such a group involves uncertainties and requires long-term commitments, tax incentives should also be given to those firms that make commitments to building a diverse workforce. The tax incentives could potentially be offered through Australia's pre-existing research and development tax scheme. Under the current scheme, firms receive a refundable tax offset based on turnover (Business.gov.au, 2016). We propose that the government should also provide tax offsets for businesses that utilise ethnic and gender diverse teams to execute innovative projects.

Second, the "Collaboration" between universities and industry should involve in-depth studies about recruitment mechanisms. This could be conducted through schemes such as the ARC Linkage Projects scheme. Collaboration under these schemes could for instance, investigate in detail, impediments to diversity that arise from the uncertainties involved in assessing applicants, from the dynamic nature of recruitment processes, and from the links between personal networks and employment.

If such research reinforces the idea that differences in the discourse systems between different subpopulations contribute to the underrepresentation of candidates from minority groups, an effective solution could be to establish more diverse recruitment interview panels. As another example, if the research identifies the imprecision in assessing the quality of minority-group candidates as the reason for the underrepresentation of minority-group workers at workplace, universities can work with industry to establish activities that help reveal and testify participants' performance and quality. At the university level this could be in the form of competitions, research projects, internships and industry placement programs that ensure equal access by students of different gender and ethnicity. At the industry level, this could manifest itself in workplace oriented recruitment/interview tools to help firm's assess the quality of minority-group candidates.

Third, with respect to "Talent and Skills", it should be recognised that technical skills are important to innovation but so as the skills to work well with other people. A largely collaborative workforce has not only a direct effect on productivity but also an indirect effect via the beliefs held by recruiting firms. Let recall the two-period model

and the realisation of applicant pools sketched out in the second story. At time $t = 1$ when the firm employs a type B^H worker and a type W^L worker, if the probability that all applicants in period two are W^L (q) is small, the firm would have kept B^H and thus the resulting pair of workers in period two would be (B^H, W^H). This is because when there are more type W^H workers in the population and fewer of type W^L in the population, keeping B^H involves a lower risk of ending up with a discordant group of workers and a higher chance of ending up with the most favourable group of workers, one that is both diverse and collaborative. In brief, positive changes in the labour force will boost the firm's optimism about its future application pools, possibly to the point that it could overturn a decision to keep a non-collaborative majority-group worker.

Conclusion:

This article attempted to explain why there could remain a lack of workplace diversity in Australia even in the absence of racist and sexist attitudes. Three channels are explored, namely the risk aversion of firms, the dynamics of the labour markets, and the role of personal networks in the recruitment process.

Based on our analyses of these three factors, we suggested several key measures to promote diversity that can be integrated into the current innovation agenda. One important recommendation is on the use of tax incentives to compensate for the risks involved in utilising diverse teams. Another recommendation is to strengthen the collaboration between universities and industry, especially in gaining a deeper understanding of recruitment mechanisms and biases. We further emphasised measures that reduce the uncertainties in assessing minority-group candidates and the importance of obtaining a collaborative, differences-embracing workforce.

On a final note, in order for Australia to tap into the economic benefits of diversity, it must realise that there are several non-racial or sexist reasons why diversity is lacking within its firms' workplaces. Australia must therefore, establish policies that address these reasons to boost diversity and in turn increase the prevalence of innovative business cultures. Importantly, for this to become a reality requires joint efforts from the Australia's government, business and university sectors.

Reference List:

Abs.gov.au, 2016, 2011 *Census reveals one in four Australians is born overseas*, viewed 10 August 2016, http://abs.gov.au/websitedbs/censushome.nsf/home/CO-59.

Business.gov.au, 2016, *Research and Development (R&D) Tax Incentive*, viewed 10 August 2016, https://www.business.gov.au/assistance/research-and-development-tax-incentive.

Calvó-Armengol, A. and Jackson, M.O., 2007, 'Networks in labor markets: Wage and employment dynamics and inequality', *Journal of economic theory*, *132*(1), pp.27-46.

Cox, T.H. and Blake, S., 1991, 'Managing cultural diversity: Implications for organizational competitiveness', *The Executive*, pp.45-56.

Companydirectors.com.au, 2016, *Gender diversity on boards - Australian Institute of Company Directors*, viewed 10 August 2016, http://www.companydirectors.com.au/director-resource-centre/governance-and-director-issues/board-diversity/statistics.

Dca.org.au, 2016a, *Diversity Council Australia*, viewed 10 August 2016, https://www.dca.org.au/dca-research/capitalising-on-culture.html.

Dca.org.au, 2016b, *News*, viewed 10 August 2016, https://www.dca.org.au/News/All/Businesses-that-don%E2%80%99t-value-cultural diversity-are-missing-out/400.

Díaz-García, C, González-Moreno, A & Jose Sáez-Martínez, F 2013,'Gender diversity within R&D teams: Its impact on radicalness of innovation', *Innovation*, 15(2), pp.149-160.

Granovetter, M., 1995, ‘Getting a job: A study of contacts and careers’, *University of Chicago Press*.

Hoogendoorn, S, Oosterbeek, H & Van Praag, M 2013, ‘The impact of gender diversity on the performance of business teams: Evidence from a field experiment’, *Management Science*, 59(7), pp.1514-1528.

Jackson, SE, Joshi, A & Erhardt, NL 2003, ‘Recent research on team and organizational diversity: SWOT analysis and implications’, *Journal of management*, 29(6), pp.801-830.

McKinsey & Company, 2015, ‘Why diversity matters’, viewed 10 August 2016, http://www.mckinsey.com/business-functions/organization/our-insights/why-diversity-matters.

Mogan, J. and Várdy, F., 2009, ‘Diversity in the workplac’. *American Economic Review*, 99(1), pp.472-485.

National Innovation and Science Agenda, 2016, *National Innovation and Science Agenda*, viewed 10 August 2016, http://www.innovation.gov.au.

Pelled, LH, Eisenhardt, KM & Xin, KR 1999, ‘Exploring the black box: An analysis of work group diversity, conflict and performance’, *Administrative science quarterly*, 44(1), pp.1-28.

Slater, SF, Weigand, R & Zwirlein, TJ 2008, ‘The business case for commitment to diversity’, *Business horizons*, 51(3), 201-209.

Østergaard, CR, Timmermans, B & Kristinsson, K 2011, ‘Does a different view create something new? The effect of employee diversity on innovation’, *Research Policy*, 40(3), pp.500-509.

Ozgen, C & de Graaff, T 2013, ‘Sorting out the impact of cultural diversity on innovative firms. An empirical analysis of Dutch micro-data’, (No. 2013012).

Norface Research Programme on Migration, Department of Economics, University College London.