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## <cn>21.<em><ct>Ability, Motivation and Opportunity theory: a formula for employee performance?

<au>**Ashlea Kellner, Kenneth Cafferkey and Keith Townsend**

### <a>INTRODUCTION

In the human resource management (HRM) discipline, the Ability, Motivation and Opportunity (AMO) theory has been adopted extensively to potentially explain the complex relationship between how people are managed and subsequent performance outcomes. A commonly accepted view is that some combination of an individual's ability (A), motivation (M) and their opportunities (O) can give us a measure of an individual's performance (P) (expressed as  $AMO = P$ ). Although it is unclear through the expression of this formula, HRM researchers have in recent decades applied the AMO framework in a way that suggests it is *the associated HRM practices* that in fact influence an individual's ability, motivation and opportunity, which therefore leads to performance-related outcomes. Employee ability, for instance, could possibly be improved *via training*, motivation potentially develops *through performance-based pay*, and opportunity to participate could be influenced by *self-directed team membership*. Unfortunately, the application of such HRM practices is somewhat vague and a prescriptive course of action to realize the potential of AMO remains elusive. However, taken broadly as a HRM system, the total effect of practices is to increase outcomes such as individual productivity, team performance or firm profitability. Similarly, the AMO model can also be used to understand behavioural processes between people management initiatives and potential performance improvements (Purcell et al., 2003). There is a lot to like about this model and, hence, intuitive acceptance is commonplace in the discipline (Boselie et al.,

2005). AMO theory allows various practices to be grouped together into three different dimensions of performance antecedents and suggests the interaction of these elements can help predict a large number of performance outcomes.

There are, though, some fundamental issues associated with the model which we explore in detail in this chapter. First, AMO theory when traced back to its roots appeared to be concerned with individual characteristics as independent variables, however, the HRM field uses organizationally determined HR practices and policies as independent variables. This means there are at least two different incarnations of the AMO model, although this differentiation is often unclear in the literature. Second, while AMO is a commonly adopted framework to explain performance, very few researchers actually empirically test the model. Further to this point, there is significant inconsistency in the definition and selection of dependent and independent variables, compounded by lack of consideration of context in determining how variables should be selected.

In this chapter, we develop an argument to suggest AMO theory is poorly defined and tested, and that intuitive appeal is not because it is a robust theoretical model, but that it can be adapted to suit almost any HRM study. Consequently, theoretical development of the AMO model has been stagnant, and without deeper consideration of the variable relationships and interactions, development of AMO will continue to be piecemeal and overly simplistic. We first consider the development of the model in a historical context and the antecedents to its evolution. Next, we discuss in greater detail the key application issues associated with AMO theory, namely, relating to variable definition, thereby restricting comparison of extant research. Subsequently, we explore the related issue of confounding dimensions, whereby there is inconsistency as to which category (AMO or P) variables are assigned. We offer some explanations for these critical issues, and outline an agenda for future development, supported by our own preliminary model of AMO for HRM research. This model begins to

more clearly define the complex relationships between all of the components of AMO, HRM practices and the broad range of outcomes.

## <a>EVOLUTION OF THE AMO FRAMEWORK

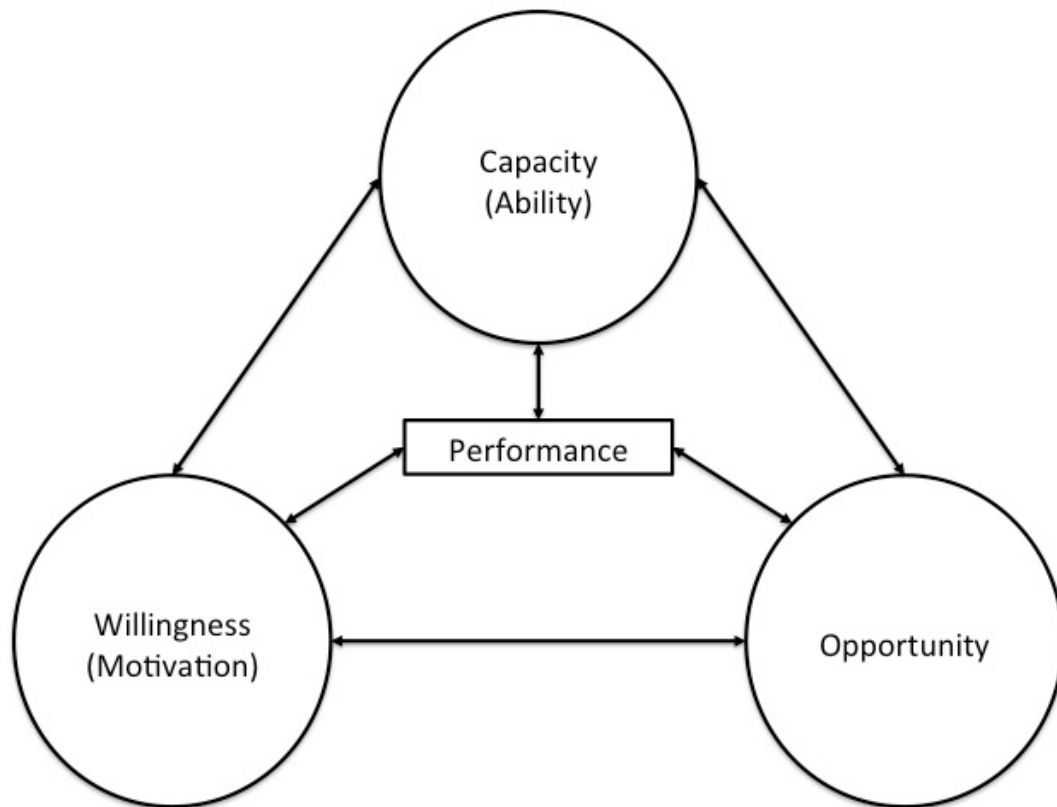
Two streams of psychological theorists lay the foundations for the AMO model. First, industrial psychologists who have traditionally viewed performance as a result of the selection of employees and the training that they are given (see, for example, Lawshe, 1945), and second, social psychologists who place great importance on motivation as a key criterion in eliciting performance (see, for example, Wyatt et al., 1934). Until the late 1950s/early 1960s performance was seen as simply a function of selection and training (Blumberg and Pringle, 1982). One of the first to draw these two elements of performance together was Victor Vroom, who suggested an interactive ability and motivation formula where performance is a function of ability  $\times$  motivation [ $P = f(A \times M)$ ] (Vroom, 1964). Scholars have since recognized the failings of the formula though as a number of relevant variables did not fit comfortably with either the ability or motivation dimensions.

Campbell et al. (1970) provide the first reference we can identify which introduces, briefly, the opportunity element of the formula. More recent articles (see, for example, Kim et al., 2016) suggest the framework was ‘originally used in marketing research to study consumer information processing’ (p. 1571) while citing marketing articles from the early 1990s. Subsequent to Campbell’s work, Blumberg and Pringle (1982) further developed the argument that one’s opportunity to perform is a critical dimension of any performance model. The authors argue  $A \times M$  is ‘unable to account for environmental variables not under the control of the individual ...’ (p. 563). In fact, the authors contend certain environmental or contextual factors beyond the employee’s control play a significant influential role on

performance. These contextual factors are potentially vast in number, but can be described as ‘states of nature’ and ‘actions of others’, and are combined to create the dimension of opportunity (p. 563).

In their seminal work, Blumberg and Pringle (1982) use the terminology ‘capacity’ (tantamount to ability) and ‘willingness’ (tantamount to motivation). Hence, they promote a model that is analogous with AMO, but termed OCW (Opportunity, Capacity, Willingness). Their formula is interactive in nature,  $P = f(O \times C \times W)$  where all three elements must be present in some degree for work performance to occur (demonstrated in Figure 21.1). There is, however, no explicit statement about what performance is or how it should be measured aside from ‘performance is determined by opportunity, willingness, and capacity and, in turn, is a partial determinant of each’ (p. 565). In essence, this means aspects of performance are not only driven by AMO elements, but good performance will influence the employee’s job satisfaction and consequently, as an example, increase willingness (motivation) even further.

<PLEASE INSERT FIGURE 21.1 ABOUT HERE>



*Figure 21.1 Blumberg and Pringle's (1982) early interactive OCW model*

Blumberg and Pringle argue an individual's performance will influence other variables, hence AMO should not be considered a static model. For example, when an employee goes through a performance evaluation process (commonly considered as a motivator variable) a strong evaluation may provide new opportunities for the employee. Equally, a strong positive evaluation may provide higher levels of motivation for the employee to continue working hard and further improve their performance. Negative performance evaluations may similarly decrease motivation and limit future opportunities. Therefore, it is reasonable to suggest that all variables interact with performance and are interdependent with each other and thus could be described as self-reinforcing.

This early model of AMO has not seen straightforward adoption in the HRM discipline. Instead, there are a number of adaptations and interpretations of how AMO may work in practice. Some authors agree AMO may have a multiplicative effect, whereby each variable must exist, and performance will increase or decrease accordingly with movement of any variable (Siemsen et al., 2008). The difficulty with this equation is where one variable is not present, performance theoretically cannot occur, nor can performance be improved by a single variable. Alternatively, the relationship between variables may be additive, meaning each variable will have a direct and independent influence, whereby improving ability, for example, will improve performance regardless of the other two variables (Bos-Nehles et al., 2013). Bos-Nehles et al. (2013) combined the additive and multiplicative approach, proposing ability directly affects performance, while motivation and opportunity can only increase or decrease this effect, expressed as:  $P = f A(1 + M + O)$ . This work, and similar work by Kellner et al. (2016) which produced contrary results, both indicate that the context in which the study is conducted is a key factor for consideration. McDermott et al. (2017) suggest that all performance is context specific, and therefore AMO ought to take context into consideration. Expression of AMO theory as a more nuanced formula or model, influenced by contextual dynamics and without static features, is a positive development for the AMO concept.

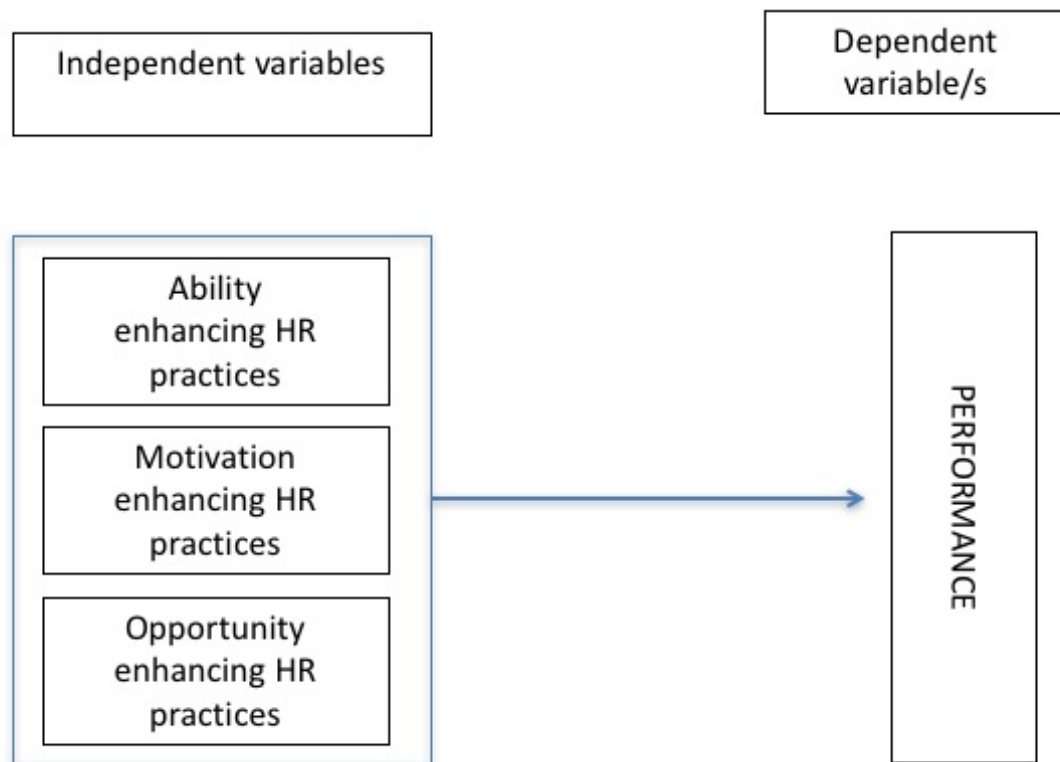
Omitting citation to the historical development of the AMO model and seminal authors (Blumberg and Pringle, 1982; Campbell et al., 1970; Vroom, 1964), Appelbaum et al. (2000) instead have become the standard reference for the AMO framework in the HRM discipline. Specifically, the notion that HR policies and practices can be grouped into ability, motivation or opportunity-‘enhancing’ categories and linked to improved performance. This is a departure from earlier conceptualizations of the theory, and the shift from measuring, for example, ability-enhancing variables in lieu of ability has not been clearly mapped out in the

literature. In effect, individualism (personal characteristics) drove AMO developments to circa 2000, and then the individual became somewhat lost as the majority of AMO research transitioned to a systems approach driven by HR policies as espoused by Appelbaum et al. (2000). Another important variation to note here is that the change from an individual to a systems-based approach highlights a pro-management unitarist view of performance, whereas Applebaum et al. (2000) address broader outcomes such as equality, inclusion and justice.

In short, we illustrate the approach of the HRM discipline in applying the AMO framework in Figure 21.2.

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*Figure 21.2 Standard contemporary adoption of AMO model in HRM research*

The model in Figure 21.2 can be compared with Figure 21.1 as an illustration of the evolution of AMO in the HRM discipline. There has been confusion between the psychology model and the HRM model of AMO; a confusion between an individual's AMO and AMO-enhancing practices. Lacking is an explicit discussion that it is the ability-enhancing practices that are presumed to enhance an individual's ability, which in turn enhances performance outcomes. Hence, we have not shown these relationships in this model. In the following section, we discuss the application of the model in the extant literature, which has seen resultant issues relating to demonstrating causation between AMO-enhancing practices and performance, and poor justification for inclusion and exclusion of HRM practices.

## <a>ISSUES OF APPLICATION

Popularity of AMO began shortly after the publication of Applebaum et al.'s (2000) book, and has remained strong since. In a 2005 review, Boselie et al. identified 42 instances when AMO was cited, while in their 2012 review Jiang et al. found AMO to be used an additional 52 times. A comprehensive systematic literature review published elsewhere (Townsend et al., 2017) indicates 43 articles have demonstrated application of AMO in the research design within the HRM field, outside of merely mentioning it in the literature review or to examine findings. In the main, research tends to genuflect to AMO as a means to legitimize HRM and performance research. The concern is that AMO is, or could be, used to retrofit a study to provide a sense of legitimacy. According to Marin-Garcia and Tomas (2016), however, while AMO is a commonly acknowledged framework to attempt to explain performance, and is used widely in HRM research, few researchers actually apply and empirically test the model. Consequentially, existing meta-analyses (for example, Boselie et al., 2005; Combs et al., 2006) indicate *association* between HRM variables and performance, however they do not show causation, due – as Guest (2011) suggests – to insufficient empirical evidence.

Research that uses AMO should assist academics and practitioners to understand which HR practices enhance employee ability, motivation and opportunity, how this effect occurs, and what performance outcomes are enhanced as a result. While AMO has been widely cited and adopted as a framework for research articles, its application utility is heavily limited by insufficient empirical testing of the model. This limitation, it seems, is likely a result of the major application issue, which is that it is almost impossible to compare studies due to stark differences and confusion in the dependent and independent variables. It is important to note here that some of the strongest proponents of AMO have come through qualitative research which tend to address general variables as opposed to their specific measurement (Currie et al., 2015; Purcell et al., 2003).

A great disparity exists in the variables considered within the empirical AMO literature. As we will show, this disparity means we have an ever-increasing volume of empirical studies pointing to the relationship between AMO variables and performance, but very limited capacity to compare these studies. Consequentially, as a field we will find it difficult to progress theory in a meaningful way when we continue to move in incremental developments with minor changes to variables used. In the following we report our findings of a comprehensive review of the empirical articles that use AMO theory in a meaningful way. We outline issues with the core variables, both individually and when taken together as a model where confounding and confusion inevitably arise.

#### <a<DEFINING PERFORMANCE

There is significant variation between the measures adopted as dependent variables and it is debatable whether they are all legitimate performance measures. The majority of articles examined adopt individual employee performance measures, including variables as diverse as self-efficacy, expatriate performance, job satisfaction, emotional exhaustion and intention to quit. Team-based performance measures were also identified, including team innovation and team creativity. Highly diverse organizational-level performance measures are applied across the research, such as return on investment, corporate environmental citizenship, productivity and safety. Some studies use multiple performance measures, and few studies share the same measures of performance. We found 43 studies that actually used AMO, and these studies listed 63 performance outcomes across individuals, teams and organizations. While this diversity is not particularly helpful, it is also not surprising because each research project is developed independently with researchers aiming to find a unique contribution to knowledge as opposed to making a collective contribution. However, this problem is compounded when it comes to the AMO variables that are used.

## <a>UNPACKING ABILITY, MOTIVATION AND OPPORTUNITY

Training appears to be the most commonly adopted ‘ability-enhancing’ HR practice used in empirical work adopting the AMO framework. Selective hiring and recruitment closely follow. What is concerning is the notion research is being published that considers recruiting as a variable at all, as any organization which does not select or recruit staff will obviously have no level of performance. Selective hiring provides a more nuanced description of more sophistication than simply selection and recruiting and therefore becomes more useful as a concept to measure.

When we consider the effect that motivation or motivation-enhancing practices have on performance the picture is similarly bleak. Of the different variables used, those that were present in multiple studies included only compensation, performance-based pay, work-life balance, performance appraisals and performance evaluations. Again, suggesting compensation improves performance is somewhat underwhelming and should be considered standard – paying people will increase the likelihood that they will work – this is hardly the cutting edge of social sciences. What is more interesting is whether performance-based pay will increase performance and none of the AMO-focused studies show that to be the case.

When we look at the use of opportunity variables, the cohesion is no clearer. Variables that appear more than twice in our review of the literature include: teamwork, social networks, autonomy, communication, employee surveys, information sharing, involvement in decision-making and participation. Bos-Nehles et al. (2013) found role overload to be negatively associated with performance of frontline managers, and Innocenti et al. (2011) found the presence of employee surveys was negatively associated with the performance measure of employee attitude towards the organization. This, however, might be logically

explained as organizations who do not have employee surveys are probably less likely to be aware of their employees' attitude towards the organization, hence skewing the results.

Overall, it seems, there is a great deal of inconsistency in the variables used combined with limited evidence that any particular variables have a direct effect on performance.

#### <a>CONFOUNDING DIMENSIONS

Additional to the issue of inconsistency in variables used for each dimension, there also appears to be a great deal of confusion over what exactly makes up the dimensions of the AMO model. This variable confusion is systematic of work in the High Performance Work Systems (HPWS) literature (see Chapter 7). When is something a motivation-enhancing factor, and when is it an opportunity-enhancing factor? For example, information sharing has been used twice within the motivation dimension (Lertxundi and Landeta, 2011; Sarikwal and Gupta, 2013) but it has also been used within the opportunity dimension on four occasions (Bello-Pintado, 2015; Lee et al., 2019; Ma et al., 2017; Tian et al., 2016) while Innocenti et al. (2011) use information sharing as an ability. A closely related variable – knowledge sharing behaviours has been used as a performance measure. We must ask, how useful is the AMO model if variables can be used within each of the three independent dimensions and the dependent variable? We believe this is symptomatic of a rush to empiricism with total disregard for theory application and development.

Continuing the notion of dimension confusion and contradiction, work-life balance policies have been used as motivation enhancing in three studies (O'Donohue and Torugsa, 2016; Raidén et al., 2006; Sarikwal and Gupta, 2013) while also considered as opportunity-enhancing practices in two studies (Fabi et al., 2015; Kundu and Gahlawat, 2016). Knies (2011) has used, as a performance measure, frontline managers providing support for tailor-

made (flexible) working arrangements. Similarly, and although excluded from this study as it is not a journal article, we have also seen conference papers where the *use* of work-life balance policies has been used as a dependent variable (Lee et al., 2015). Involvement in decision-making has been used as a motivation (Trullen et al., 2016) and as an opportunity (Boselie, 2010; Harney and Jordan, 2008; Lee et al., 2019; O'Donohue and Torugsa, 2016; Ogbonnaya and Valizade, 2018; Raidén et al., 2006; Sarikwal and Gupta, 2013; Tian et al., 2016).

Performance appraisal has been operationalized in all three dimensions of the model, as an ability-enhancing practice (Sarikwal and Gupta, 2013), motivation enhancing (Fabi et al., 2015; Lee et al., 2019; Ma et al., 2017; Obeidat et al., 2016; Ogbonnaya and Valizade, 2018; Tian et al., 2016; Vermeeren, 2015) and as an opportunity-enhancing policy (Raidén et al., 2006). Closely related variables – job evaluation (Innocenti et al., 2011) and formal job analysis (Obeidat et al., 2016) – have also been listed as ability enhancing, with performance evaluation as a motivator on three occasions (Andreeva and Sergeeva, 2016; Bello-Pintado, 2015; Prieto Pastor, 2010). Communication skills has been presented as an ability variable (Lee et al., 2019), while Lertxundi and Landeta (2011) and Tregaskis et al. (2013) suggest communication is a motivator variable, and yet it is seen as an opportunity-enhancing practice in the research of Birgit Raidén et al. (2006), Ogbonnaya and Valizade (2018) and Fabi et al. (2015). This inconsistency in classification of variables is not necessarily due to researcher error, however, and we propose three potential explanations below.

#### <a>POSSIBLE EXPLANATIONS FOR AMO THEORY LIMITATIONS

The examples discussed above demonstrate a level of conceptual confusion within the AMO literature and we argue this confusion points to one of three possible explanations that are not

mutually exclusive – in fact, all three may be operating within the literature. The first explanation is that the model is a meaningless chameleon that allows any data set to fit because the ability, motivation and opportunity dimensions are so vague it allows any interpretation researchers deem appropriate (or convenient). The second possible explanation is that, as Kellner et al. (2016) suggest, context is a central explanatory variable. For example, involvement in decision-making is certainly a motivating approach for employees in certain circumstances and also provides opportunities in others – what becomes important here is the performance variable that is being measured. Involvement may be a motivator when measuring, for example, job satisfaction, but it then becomes an opportunity-enhancing practice when we are measuring safety as it allows employee contributions to problematic and unsafe practices and processes within the organization. Theoretical development is hence reliant upon the specifics of context and study design because if this explanation is salient, the variables are changeable depending on the context and performance measures.

A third potential explanation is that there is confusion within the literature over what we consider within the AMO model, pointing towards a fundamental flaw within our current collective understanding of AMO. As previously mentioned, many studies draw together a series of HR policies that are then combined into aggregated ‘enhancing’ policies. By taking this approach we can see there is strong evidence that each of the AMO dimensions contribute to performance, but we do not know from the AMO literature whether, for example, performance management systems contribute positively to performance and, if so, under what circumstances. There are other studies though which embrace a more traditional view of AMO variables – drawn from the Blumberg and Pringle era of AMO – and use variables like ‘willingness to act’ as a motivator or ‘personal traits’ as an ability measure. Hence, we clearly have three different types of studies within this domain of measuring AMO as it relates to performance and HRM: (1) studies of individual characteristics; (2) studies of

individual HR practices; and (3) studies of aggregated HR practices. The sum of these different approaches is three conversations being conflated with very limited progressive gains.

#### <a>FUTURE DEVELOPMENT OF THE AMO MODEL

Our review of the existing literature adopting the AMO framework indicates a number of fundamental issues that prevent comparison between research and limit empirical testing. AMO, it appears, may currently be used to justify research, *rather than guide research*. The categorization of AMO as a theory is in itself questionable; this is potentially due to low levels of predictive capacity of the AMO model in its current form (Jiang et al., 2012). For the field to move forward, researchers must acknowledge the current ‘pick and mix’ approach to variable selection that exists, and issues with different levels of analysis. There is conflation between the psychology model of AMO and the HRM model of *AMO-enhancing practices*. This final point, in particular, must be more clearly understood and clarified in future research design. AMO would undoubtedly benefit from some standardization in terms of traits/practices and some contextualization in terms of what constitutes performance in a certain sector, for example, a bank’s performance is unquestionably different to that of a school.

We aim to take the first step towards clarification of the AMO framework and its better application in HRM research through a new model, presented in Figure 21.3. The model promotes theoretical advancement while providing the opportunity for a future research agenda to empirically test this model. We clearly delineate between individual-level ability and motivation, and systems-level *practices that enhance these two variables*. At an individual level we can measure various dimensions of abilities and motivations, and at a



systems level we can measure various enhancing practices for the abilities and motivations variables, however opportunities present a slightly more complicated challenge. Individuals do not ‘own’ opportunities, nor are they inherent in the HR system. As Blumberg and Pringle (1982) stated almost four decades ago, opportunities make up ‘environmental variables not under the control of the individual ...’ (p. 563). These opportunity variables can overlap the individual and systems level of the model. Equally, we draw on past literature in our model to demonstrate all dimensions can (and will) interact with each other, and with performance, resulting in an effect on the AMO variables at an individual and HRM systems level. The utility of this model is that the imbalance towards HR practices is addressed and the individual is restored to parallel prominence alongside the HR system dimensions. In doing so, we dispel the myth that HR practices are the sole antecedents of performance irrespective of the individual involved. The individual is not viewed a latent robotic conformist to HRM intentions. As researchers we must acknowledge that performance could equally be driven by variables outside the remit of the HR department, that is, individual traits.

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‘organizational’>

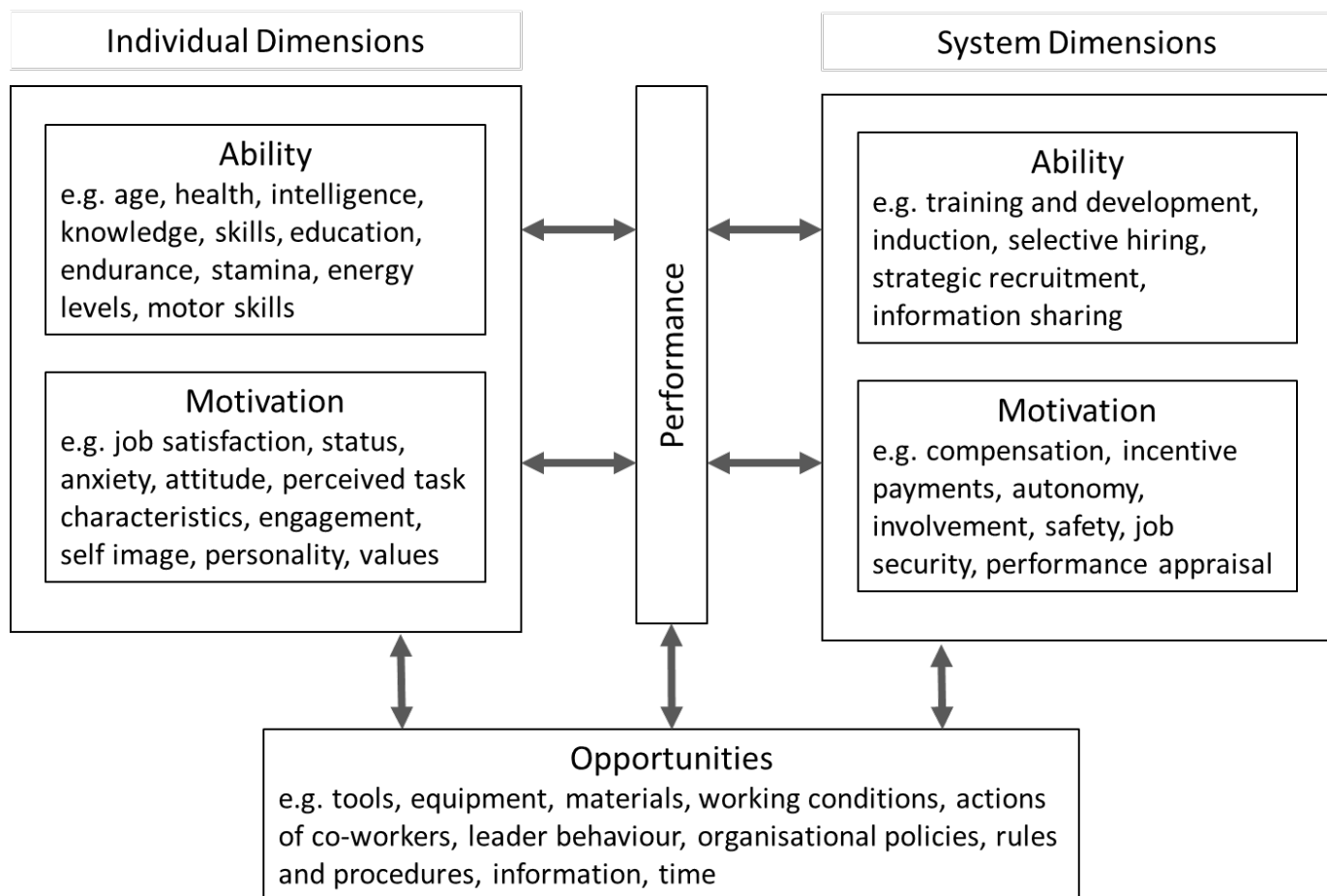


Figure 21.3 A dynamic model of AMO for HRM research

An individual's performance will have a direct influence on the individual's abilities, motivation and opportunities just as much as these variables affect performance (Jiang et al., 2012). This is not to say we have a situation of reverse causality to disentangle. What we mean here is that an employee's performance is not the only outcome in this model, but changes in the AMO variables occur as a result of an individual's performance. As noted by Jiang et al. (2012), there are significant differences in the predictive capacity of AMO variables. If, for example, an employee is performing well in their role, there would be many circumstances where the employee's motivation is increased with this success. Equally, the interaction between motivation and opportunities are clear here as it is not unreasonable to

suggest this high performing employee may be provided with more opportunities from senior staff. These opportunities may come in the form of new projects or acting roles, all of which in theory will increase the abilities of the employee. It is our intention that this preliminary model encourages discussion around the issues of variable definitions, interactions and levels of analysis that we have identified in this chapter.

## <a>CONCLUSION

Our review of AMO theory in the HRM field has unearthed that very few researchers actually make a theoretical contribution to the AMO model. This is partially due to the inconsistent nature of research designs whereby AMO is used to justify rather than guide research.

Moving forward, from a theoretical development point of view, for advancement to occur researchers must first acknowledge the various types of AMO that are apparent and also the levels of analysis that they occur at. The current approach to variable selection and levels of analysis leads to a high degree of confusion and inconsistency in the body of research.

Second, research should start with AMO in terms of standardized practices while incorporating a contextualized dimension in relation to performance.

From a practical perspective, a significant proportion of AMO lies outside the remit of the HR department by focusing on the individual and their characteristics. For instance, Blumberg and Pringle (1982) suggest items such as age, health, stamina, personality, tools and equipment as are important as any HR initiative in eliciting performance outcomes. Management should be cognizant of this point as HR alone is not enough to realize the potential of AMO. Sophisticated recruitment and selection, for example, factoring in the individual-level characteristics of AMO, ought to provide the best opportunity to realize any performance gains.

This chapter provides a number of different avenues for future research that can lead to a cumulative body of knowledge. First, AMO research should distinguish between individual characteristics and HR practices that are aimed to enhance the individuals' AMO. Second, there is a significant deficiency in addressing the interactions between variables in contemporary AMO research. Research of this vein would undoubtedly prove useful in providing a weight to the predictive capacity of each variable. Finally, in its present form of a simplistic input–output model, AMO provides little by means of value. It would be beneficial to conceptualize and test AMO as a continuous process such as suggested in our model, whereby AMO influences performance and performance subsequently reinforces AMO in turn.

In conclusion, we have unearthed several deficiencies in the AMO model in terms of its conceptualization, application, measurement and internal workings. In its current form the model, while having obvious intuitive appeal, has severe practical limitations that are thwarting both theoretical and empirical advancement. This chapter has demonstrated that while AMO is commonly used, it is used without a common basis or purpose. There is an understandable, albeit scattergun approach to determining the dependent variable (performance) and substantial confusion over what constitutes the abilities, motivations and opportunities variables.

Within the broadly interpreted HRM field, we have (at least) two types of AMO considered – one where individual characteristics are measured and a second where HR practices are measured. Both approaches provide some small steps to improving our understanding of what leads to better performance, but independently, both approaches have limited value. We agree with previous researchers who have suggested there is a lot to like about the AMO model, hence why acceptance in the HRM discipline is almost universal. However, the problem remains that there are two AMO models operating autonomously. We

hope this chapter begins a conversation among HRM scholars that will develop AMO theory and enhance the theoretical and practical utility of the AMO model.

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